F U T U R E M E L B O U R N E (T R A N S P O R T) C O M M I T T E E R E P O R T **Agenda Item 6.4**

ROAD SAFETY PLAN 2013-2017 **2 July 2013**

Presenter: Geoff Robinson, Manager Engineering Services

Purpose and background

1. The purpose of this report is to present a revised Road Safety Plan 2013-2017 (the Plan) to the Future Melbourne Committee (FMC) for endorsement (Attachment 2).

2. The Plan was presented to the 16 April FMC meeting for consideration. At the meeting, representatives of several motorcycle groups requested that this matter be deferred due to concerns that issues they had raised during earlier consultation had not been adequately addressed. The Committee subsequently determined that consideration of the Plan be deferred until July 2013 to allow further consultation regarding motorcycle safety and amenity issues.

Key issues

3. A meeting was held with the representatives of the motorcycle groups on 22 May 2013 to discuss the written submissions. The issues raised in the submissions have been addressed or incorporated in the Plan (changes are coloured red in Attachment 2) with the following exceptions:

    3.1. the use of bicycle lanes by motorcycles is not supported, as this would result in significant safety concerns including the possibility of collisions between motorcycles and bicycles and collisions between motorcycles and pedestrians. In order to address some of the concerns regarding the impact of the reduced width of the traffic lanes on the opportunity for motorcyclists to filter through to the front of queues at signalised intersections, an action has been included in the Plan to “Ensure that the safety requirements of motorcyclists are considered as part of the design process for the installation of future bicycle lanes“;

    3.2. the introduction of motorcycle lanes is not supported. There is no provision in the Road Rules to install a designated motorcycle lane. Notwithstanding the latter, it is unlikely that opportunities could be found to accommodate such lanes in the city environment, given the traffic conditions/volumes and the limited road widths, particularly in peak periods. In order to enhance both the safety and mobility of motorcyclists, actions have been included in the Plan to "Investigate the introduction of motorcycle boxes, in consultation with all road user groups and relevant State Government agencies“, and to “Investigate the introduction of early start up for motorcycles at traffic signals”; and

    3.3. given the high pedestrian volumes in the city and the high number of collisions between pedestrians and turning vehicles, allowing motorcycles and other vehicles to turn left at traffic signals at any time with care would not improve safety conditions for pedestrians.

4. The Plan includes comprehensive analysis of the crash statistics involving pedestrians, bicycles, motorcycles, cars, trams, buses, trucks and taxis. The Goal of the Plan is to: “Create a safe, comfortable and richly engaging urban environment where pedestrians, cyclists and motorcyclists are welcomed and supported through world leading road safety practices”. The Plan identifies the following strategic objectives, which are based on the outcomes of the consultation process with the key stakeholders, including Government agencies, advocacy groups, community and business groups:

    4.1. enhance the safety of all road users;

    4.2. improve the care and attention of motorists towards pedestrians, cyclists and motorcyclists;

    4.3. improve the relationship among pedestrians, cyclists and motorcyclists;

4.4. reduce motor vehicle speeds in areas of high pedestrian movement; and

4.5. recognise the needs of pedestrians, cyclists and motorcyclists in street design.

Recommendation from management

5. That the Future Melbourne Committee approves the Road Safety Plan 2013-2017 attached to this report.

Attachments:
1. Supporting Attachment
2. Draft Road Safety Plan 2013-2017
3. Consultation Summary Paper
4. Further Written Submissions

Attachment 1
Agenda Item 6.4
Future Melbourne Committee
9 July 2013

SUPPORTING ATTACHMENT

Legal

1. No direct legal issues arise from the recommendation from management.

Finance

2. There are no financial implications associated with the endorsement of the Plan.

Conflict of interest

3. No member of Council staff, or other person engaged under a contract, involved in advising on or preparing this report has direct or indirect interest in relation to the matter of this report.

Stakeholder consultation

4. The following consultation process has been undertaken as part of the development of the Plan (refer to Attachment 3):

    4.1. a Steering Committee was formed, comprised of Government agencies and advocacy groups with a key role in supporting road safety in the City of Melbourne. The Steering Committee met regularly and played a significant role in shaping the strategic direction of the Plan.;

    4.2. a wider group of stakeholders was formed, comprised of representatives from a number of businesses and community groups/organisations from across the City of Melbourne. This group participated in a workshop to identify the strategic issues and objectives of the Plan;

    4.3. advertisements seeking public input to the Plan were placed in The Age and The Melbourne Leader newspapers in November 2012.;

    4.4. a questionnaire was made available on the City of Melbourne's website, for public to submit their views on road safety issues and objectives; and

    4.5. approximately 250 submissions were received from the public, as a result of the community outreach activities.

5. Further written submissions were received from a number of key stakeholders including Yarra Trams, Independent Riders' Group, scooter rider/resident, Victorian Motorcycle Council, Victorian Scooter Riders Association, Destination Melbourne, Blind Citizens Australia and Victoria Walks (refer Attachment 4).

Relation to Council policy

6. The Plan is consistent with the following:

   6.1. Future Melbourne;

   6.2. Council Plan 2009-13;

   6.3. The Transport Strategy 2012;

   6.4. Bicycle Plan 2012-16;

   6.5. Plan for Safer City 2011-13; and

   6.6. Policy for the 24 hour City 2012.

Environmental sustainability

8. The Plan encourages walking, cycling and motorcycling, which are considered to be energy efficient, space saving and sustainable modes of transport.

Attachment 2
Agenda Item 6.4
Future Melbourne Committee
2 July 2013

ROAD SAFETY PLAN 2013-2017

CITY OF MELBOURNE

Contents

1. Introduction 2

2. Vision 2

3. Outcomes and Targets 2

4. Goal, Strategic Objectives and Methodology 4

5. Understanding the Local Context 5

5.1 Melbourne profile 5
5.2 The policy context for road safety 7
5.3 Key demographics for the City of Melbourne 9
5.4 Travel patterns and behaviour for the City of Melbourne 10
5.5 Land development areas 11
5.6 The city at night 11
5.7 The road environment 12
5.8 Road crash statistics 14
5.9 Key road safety issues for stakeholders 21
5.10 Outcomes of the previous plan 22
5.11 Existing behavioural programs 22
5.12 SWOT analysis of the Road Safety System 23

6. Framework for Supporting Road Safety 25

6.1 Prioritising the safety of pedestrians, cyclists and motorcyclists 25
6.2 Applying the Safe System approach 25
6.3 Integrating a behavioural change model 26
6.4 Embedding monitoring and evaluation 26

7. Actions to Enhance the Safety of All Road Users 27

7.1 Introduction 27
7.2 Actions to enhance the safety of pedestrians 28
7.3 Actions to enhance the safety of cyclists 31
7.4 Actions to enhance the safety of motorcyclists 34
7.5 Regulatory and policy actions 35
7.6 Behavioural programs 37

8. Delivering the Plan 38

8.1 Collaboration and coordination 38
8.2 Designing behavioural programs 38
8.3 Implementation plan 39

9. Monitoring and Evaluation 43

9.1 Monitoring and data collection 43
9.3 Evaluation 44
9.4 Reporting 44

10. Analysis Undertaken since April 2013 45

10.1 Car crashes 49
10.2 Tram crashes 51
10.3 Bus crashes 52
10.4 Truck crashes 54
10.5 Taxi crashes 56

Appendix A - Definition of Crash Types 57
Appendix B – Number of Crashes by Crash Type 58
Appendix C –Locations of all crashes 60

Terminology and abbreviations

Throughout this document the following terms are used:

Plan - refers to this document, the City of Melbourne Road Safety Plan 2013-2017.

City - refers to the municipality of the City of Melbourne.

Central city - refers to the area defined on page 5.

Motorcycle - is used as a collective term for motorcycles, scooters and other powered two-wheel vehicles.

Car - refers to private cars, excluding taxis.

1. Introduction

This document presents the City of Melbourne Road Safety Plan 2013-2017, which follows on from the previous road safety plan (2005-2009). The plan has been developed within a highly collaborative framework through engagement with a range of key stakeholders, comprising government agencies, advocacy groups, community and business groups and the wider public.

The plan sets out a number of environmental, behavioural, regulatory and policy actions that aim to create an urban environment that is both physically and socially supportive of the needs of people when they are walking, cycling and motorcycling - as the most vulnerable road users.

This focus on vulnerable road users is consistent with the internationally adopted Safe System approach, which acknowledges the frailty and fallibility of human beings while refusing to accept that any injury is acceptable as a result.

2. Vision

The vision articulates the contribution this plan can make to the quality of life, when delivered as part of an integrated approach to the planning and development of the municipality.

By 2017 Melbourne will be -

more liveable

With a more socially and physically supportive environment for people when they are walking, cycling and motorcycling, Melbourne is becoming more people-oriented and as a result, more liveable. The prioritisation of people and place over cars and traffic has helped to create an urban environment that attracts highly skilled workers and families back into the heart of the municipality to live, work and play. The Road Safety Plan 2013-2017 has contributed to a safe, comfortable and engaging public realm that is the envy of the nation.

more healthy

The prioritisation of the needs of people, particularly for walking and cycling, has helped to embed greater levels of physical activity in people's lives. The reallocation of a number of urban spaces previously used for the movement of traffic and for car parking, has been converted to green space, supporting the City of Melbourne's Urban Forest Strategy. The creation of more green space has helped to reduce the urban heat island effect, create sustainable urban drainage and improve air quality.

more sustainable

The prioritisation of the needs of people has resulted in a significant reduction in the level of car dependency, car ownership and use, eliminating many unnecessary car trips to and within the city. More people are walking, cycling, motorcycling and using public transport, helping to reduce congestion and pollution.

more prosperous

As Melbourne has become more liveable, healthy and sustainable, its permanent and visitor populations have increased, resulting in thriving economy. More people on the street has coincided with a growth in business for local traders.

3. Outcomes and Targets

Outcomes

Outcomes are the changes in the community resulting from the delivery of the plan.

By 2017, Melbourne is a city for people where:

• Pedestrians are prioritised and supported by a safe, attractive and richly engaging urban environment.

• Cycling is a safe, efficient and comfortable way to travel to, from and within the city, and enjoys a richly rewarding experience of the urban environment.

• Motorcyclists feel welcomed and supported through safe, comfortable roads, and on-street and off-street parking.

• Walking, cycling and motorcycling are socially supported, with greater levels of respect among all road users.

• Pedestrians, cyclists and motorcyclists are supported by regulations and policies that prioritise their safety needs on the roads across the municipality, during the day and at night.

Targets

The plan sets the following targets for the next five years:

• Reduce the number of fatalities in the municipality by 20%.

• Reduce the number of people who are seriously injured in the municipality by 20%.

Lonsdale Street, Melbourne

A city where the streets feel safe, comfortable and engaging day and night.

A city where walking, cycling and motorcycling are now intuitive ways to get around.

A city where parents feel comfortable letting their children walk and cycle.

A city with a thriving economy built on prioritising people before traffic.

Great streets make great cities

A city that values the benefits of cycling and supports people to cycle through the provision of a connected network of safe and comfortable bicycle routes linking people with all destinations.

A globally acknowledged walking city – designed for people of all ages, gender and abilities.

A city where motorcycles are welcomed, supported and recognised as an important element of the urban transport system.

4. Goal, Strategic Objectives and Methodology

Our goal is to -

Create a safe, comfortable and richly engaging urban environment where pedestrians, cyclists and motorcyclists are welcomed and supported through world leading road safety practices.

Strategic objectives

The following five strategic objectives take account of the key outcomes of the background research, stakeholder engagement and crash trends.

(1) Enhance the safety of all road users

The actions and programs identified in the plan aim to enhance the safety of all road users, with a particular focus on pedestrians, cyclists and motorcyclists:

• Improve safety of pedestrians by achieving a road environment where the risk of severe trauma for pedestrians is greatly reduced both during the day and at night.

• Improve safety of cyclists by increasing the apportionment of road space available to cyclists, encourage appropriate behaviour and prepare cyclists for the diversity of central city riding experience, and improve reciprocal awareness between cyclists and other road users.

• Improve safety of motorcyclists through a supportive road environment and enhance reciprocal awareness between motorcyclists and other road users.

• Improve safety of drivers and passengers by continuing to implement appropriate road safety measures at identified intersections and mid-block locations.

(2) Improve the care and attention of motorists towards pedestrians, cyclists and motorcyclists

Motorists must show greater care and attention to the needs of pedestrians, cyclists and motorcyclists. This can be achieved by:

• Addressing the issues of driver distraction, obstruction of bicycle lanes and truck blind spots.

• Facilitating appropriate speeds.

• Providing appropriate space for cyclists and motorcyclists.

• Acknowledging pedestrians, cyclists and motorcyclists as legitimate road users.

(3) Improve the relationship among pedestrians, cyclists and motorcyclists

More needs to be done to improve the care and attention vulnerable road users show each other, by:

• Addressing the issues of pedestrian distraction and cycling on footpaths.

• Addressing the issue of cyclists and motorcyclists running red lights in areas of high pedestrian movement.

• Increasing the level of care and attention for pedestrians by some motorcyclists when parking on footpaths.

• Encouraging appropriate use of shared space and shared paths.

(4) Reduce motor vehicle speeds in areas of high pedestrian movement

By addressing:

• Speeds in activity centres and shopping strips.

• Speeds in local streets.

• Speeds around schools.

(5) Recognise the needs of pedestrians, cyclists and motorcyclists in street design

Although there are many good examples of people-oriented street design in the municipality, more needs to be done to support the needs of pedestrians, cyclists and motorcyclists, particularly to accommodate the growing population and proportion of people choosing to travel by these modes. This can be achieved by:

• Creating “streets for people” based on the needs of the young and the elderly.

• Reducing waiting times for pedestrians at signalised crossings.

• Recognising the needs of people with physical and mental mobility impairments.

• Creating safe, comfortable, connected bicycle lanes – separated where possible – that cater for the needs of a growing and diverse cycling community (including families, children, and the elderly).

• Providing for pedestrians, cyclists and motorcyclists at/close to tram stops.

Methodology

The development of the plan was based on the following approach:

• Formation of a Steering Committee, comprising key government agencies and advocates for walking, cycling and motorcycling, who participated in several workshops, providing strategic direction at key stages of the project.

• Establishing an understanding of the Melbourne context – the demographics, travel patterns/behaviour and the development of the city that influence road safety attitudes and practices.

• Review of crash statistics for a five-year period, from January 2007 - December 2011.

• Undertaking community engagement through workshops with community and business groups; a web-based feedback form advertising in local media; and a community talk shop.

• Review of international best practices in road safety measures to support pedestrians, cyclists and motorcyclists in an urban context.

• Identifying programs with a collaborative focus, to achieve the best outcomes for a walking Melbourne.

• Identifying initiatives that integrate enforcement and education to reduce risk.

5. Understanding the Local Context

5.1 Melbourne profile

In 2012, metropolitan Melbourne was ranked number one in the Economist's *2012 Global Liveability Survey*. With a growing residential population of almost 90,000 people and a daily population of more than 800,000, the city is the heart of metropolitan Melbourne and home to a diverse mix of people and cultures.

The city boasts an extensive network of streets that serve both place and movement functions, supporting a transport system comprising trams, trains, buses, pedestrians, cyclists, motorcyclists, taxis, trucks and cars. However, changing populations, travel patterns and other key demographics are creating new priorities for how the city will support the safe and comfortable movement of people.

The changing face of the city

The City of Melbourne has undergone a significant transformation over the last 20 years, to become globally recognised as one of the most liveable cities of the world. This transformation has been driven by a number of innovative policies including Postcode 3000 and the creation of more people-friendly streets, particularly in the central city.

The evolution of the urban form of the city has progressively moved from a city for traffic towards a city for people. That is, a city that is creative, prosperous, that fosters knowledge, leads the world in sustainable living and is well-connected. Internationally recognised for its quality of life and achievements to date, the rich mix of cultural vibrancy, economic opportunity and liveability is increasingly drawing more people to the city.

Melbourne has exceeded expectations in population growth, with an estimated daily population of more than 800,000. By 2030, this figure is expected to reach over 1.2 million with approximately 180,000 residents living within the municipality.

Council policy proposes to accommodate this expansion by becoming a 24-hour city, and through intensified development of urban renewal areas, supported by an efficient and sustainable transportation system, maintaining the key tenants that make Melbourne successful: prosperity, liveability and sustainability. Furthermore, Council continues to reallocate urban space to accommodate more efficiently, effectively and sustainably the economic, environmental and social needs of the city. The centrepiece of which is the transformation of Swanston Street, the city's principal street.

It has been recognised that growing levels of traffic congestion pose the greatest threat to the city's standing as one of the world's most liveable cities. It is also now recognised across the world that trying to ease traffic congestion by increasing road capacity and the flow of traffic is counterproductive. Cities across the world are increasingly looking to smarter, more efficient, cost-effective and sustainable ways to move people and enhance access to and within their municipalities.

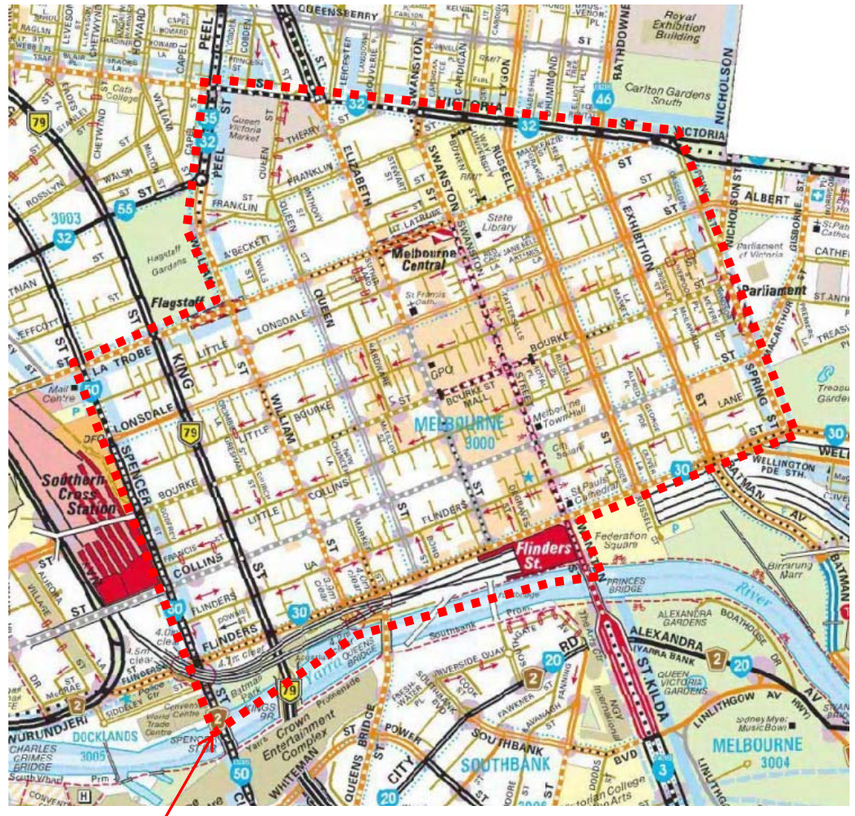
The growth in the number of people using the city and associated diversification of demographics has contributed to an evolution in expectations and habits for travelling in the city. Aligned with the global trend of reducing car use in cities and increasing more sustainable and healthy mobility, the city of Melbourne is working to improve access and movement by public transport, cycling, walking, motorcycling and smarter car-based travel options.

In this regard, the City of Melbourne acknowledges the changing societal values, through its support for car sharing schemes. The benefit of this trend will eventually be experienced at a societal level, as the reduction in car use reduces the demand for valuable urban space for car parking. This will significantly reduce the cost of new development and the cost of living and doing business in the city, making Melbourne more attractive for people to live in, for businesses to be located in, and for visitors and tourists to come to.

The emphasis on moving people away from traffic underpins many of the new Council policies, particularly the City of Melbourne Transport Strategy 2012 and the Bicycle Plan 2012-2017. The latter is supported by a commitment of $5.6 million for the first year alone, a record level of investment in cycling by a Local Government Authority in Victoria.

Ultimately, there will be more people present in the urban realm as the city continues to grow. Most of the physical environment will be constrained by existing built form and protective legislation, resulting in more people sharing and moving through the city's limited urban public space. The growth in people moving to and within the city places a significant emphasis on the need to provide a people-oriented environment. One that is functional, attractive and safe for all its users from the young to the elderly.

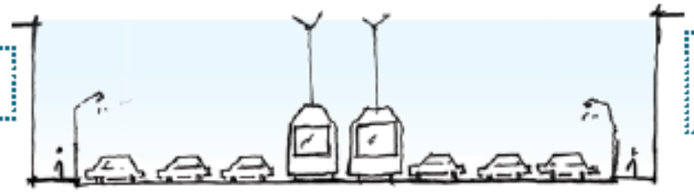
Council policies are increasingly evolving towards a people-friendly urban environment, where walking, cycling and motorcycling are normal and viable modes of travel.



Central city – in this document, the term 'central city' refers to the area shown above, bounded by Victoria Street, Spring Street, Flinders Street, Swanston Street, the Yarra River, Spencer Street, La Trobe Street, William Street and Peel Street.

The Changing Function of City Streets

PRE 1980s

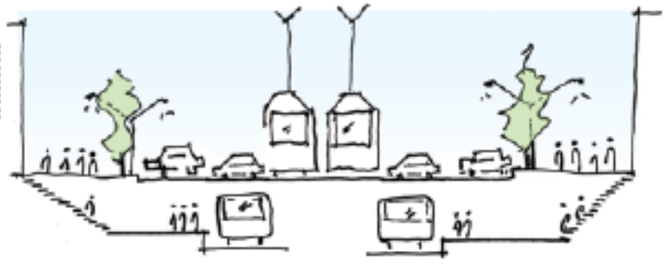


Daily Population
250,000

1990s

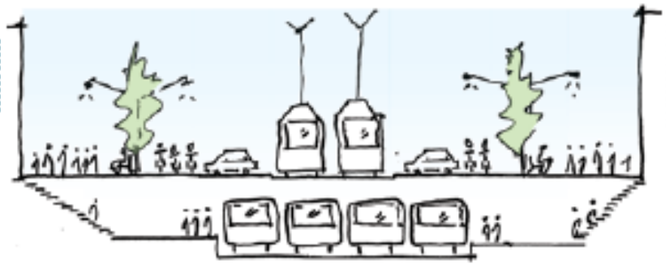
Daily Population
500,000

2000s

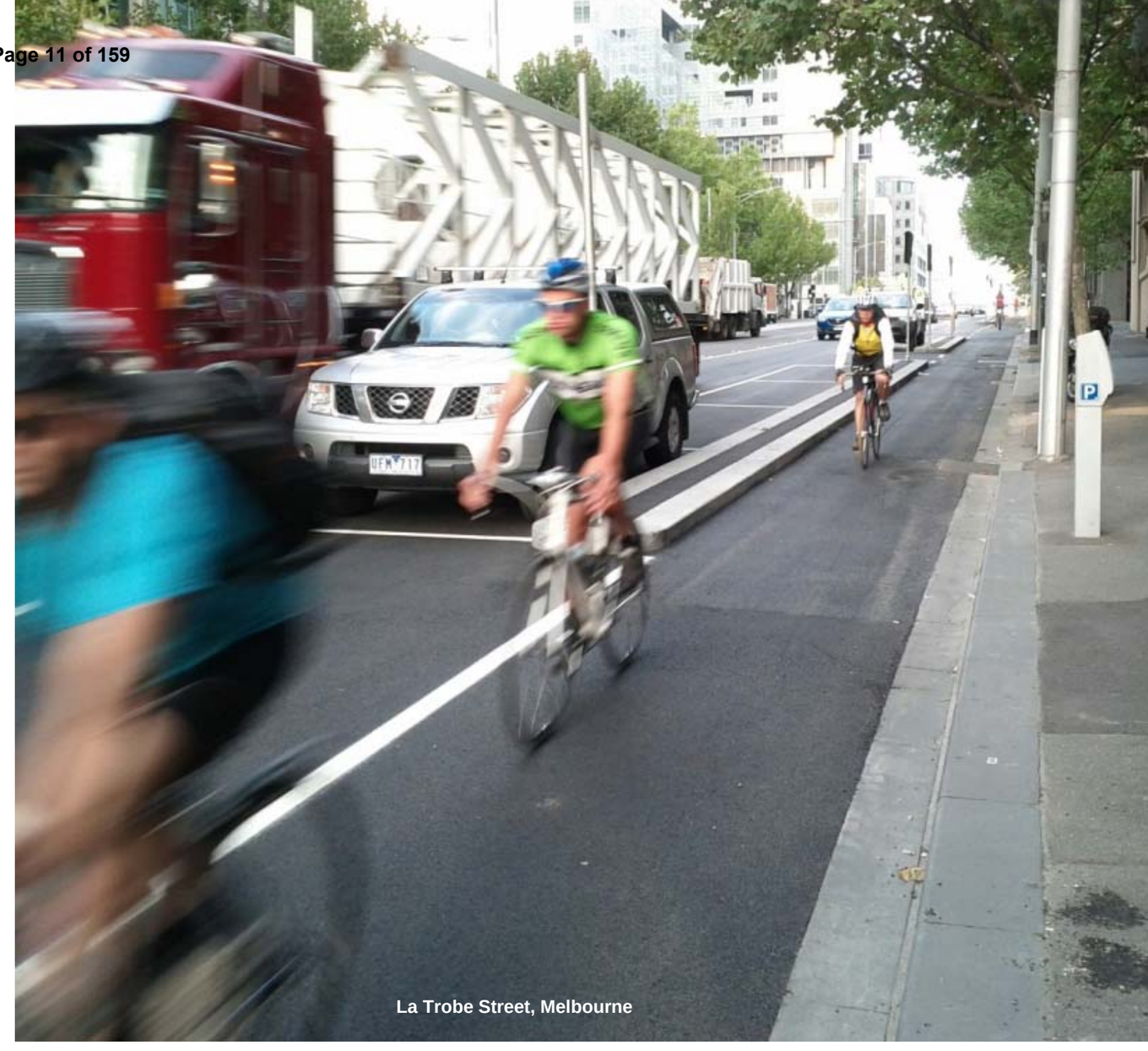


Daily Population
750,000

2030



Daily Population
1,200,000



La Trobe Street, Melbourne

5.2 The policy context for road safety

FEDERAL

National Road Safety Plan 2011-2020

The National Road Safety Plan 2011–2020 is a 10-year framework, based on the Safe System approach, with the aim that “no person should be killed or seriously injured on Australia’s roads”. The plan proposed a target of a 30 percent reduction in the annual numbers of both deaths and serious injuries.

National Urban Policy

The National Urban Policy provides the framework for improving the productivity, liveability and sustainability of Australian cities. The policy proposes to “improve accessibility and reduce dependence on private motor vehicles”, noting the negative role of cars on road safety. To achieve this, the policy proposes stronger support for walking, cycling and public transport.

State of Australian Cities 2012

The State of Australian Cities report provides a review of the development of Australian cities including demographics, productivity, liveability, sustainability and governance. The report highlights the role and importance of safe urban environments and the need to support walking, cycling, and public transport. For the first time attention is drawn to the role of motorcycles in a sustainable urban transport system.

STATE

Victoria’s Road Safety Strategy 2013-2022

The Victorian Road Safety Strategy proposes a close alignment with the National Road Safety Plan 2011-2020, following the principles of the safe system approach. Among the strategic priorities are pedestrians, cyclists and motorcyclists.

Pedestrian Access Plan 2010

The Pedestrian Access Plan sets out the Victorian government’s vision for a more pedestrian-friendly transport system. The aim of the plan is to encourage walking, especially for short trips. The plan establishes broad policy principles to investment in walking over the next 10 years – including infrastructure, planning and design, safety and behaviour change programs.

Cycling into the Future 2013–23

The new Victorian bicycle plan proposes a “holistic, coordinated and strategic approach to considering the needs of all bike riders and developing policies, programs and actions to address these needs”. One of the key goals is to “reduce safety risks – reduce conflicts and risks to make cycling safer”.

Victoria’s Road Safety and Transport Strategic Action Plan for Powered Two Wheelers 2009-2013

This action plan follows on from the Victorian Motorcycle Road Safety Strategy 2002-2007, and is designed to set a new strategic direction for the use of motorcycles in Victoria. The plan proposes a range of actions focusing on research, behaviour, regulation, vehicles and equipment.

Transport Integration Act 2010

The purpose of this Act is to create a new framework for the provision of an integrated and sustainable transport system in Victoria. The Act proposes to “promote forms of transport and the use of forms of energy which have the greatest benefit for, and least negative impact on, health and wellbeing”, which supports the prioritisation of walking, cycling and motorcycling in urban environments.

LOCAL

Future Melbourne

Future Melbourne is the City of Melbourne’s long-term plan for the city’s future direction. The plan was endorsed by Council in 2008 and helps inform annual Council plans. Future Melbourne sets the goals of being a “bold, inspirational and sustainable global city and one of the top ten most liveable and sustainable cities in the world”. A subset of these goals is the aim to establish “a connected city where 90% of people working in Melbourne central city arrive by public transport, cycling or walking by 2020”.

Council Plan 2009-2013

The Council Plan 2009-2013 is the Council’s medium-term plan (four years) for its time in office. Among its key desired outcomes is “the community has access to high quality, clean and safe parks, streetscapes and public spaces”. To achieve these outcomes the plan proposes a range of goals with a strong focus on the provision of safe walking, cycling and public transport facilities for the whole community, supporting mobility, health and well-being.

Transport Strategy 2012

The strategy is the City of Melbourne’s overarching policy for developing a transport system to support its prosperity, liveability and sustainability. The key goals focus strongly on the provision of a safe and attractive walking, cycling and public transport environment for all ages, including priority for pedestrians in the central city.

Bicycle Plan 2012-2016

The bicycle plan is the City of Melbourne’s policy to make the city safer and more attractive for current and future cyclists. The plan proposes a range of infrastructural, behavioural and other supporting measures for enabling and motivating people to cycle. Critically, the plan is supported by a $5.4 million budget.

Plan for a Safer City 2011-2013

The plan covers a broad range of issues including community safety, crime and violence prevention, and intentional/unintentional injury prevention. Safe access to and from the city are cornerstones of the plan.

Policy for the 24 Hour City 2010

The 24 Hour City policy is the City of Melbourne’s framework for a safer, more vibrant and diverse Melbourne. It is based on the principles of harm reduction, social and community wellbeing, economic prosperity, land use planning, public place design/management and service excellence.

Swanston Street, Melbourne

Federal

State

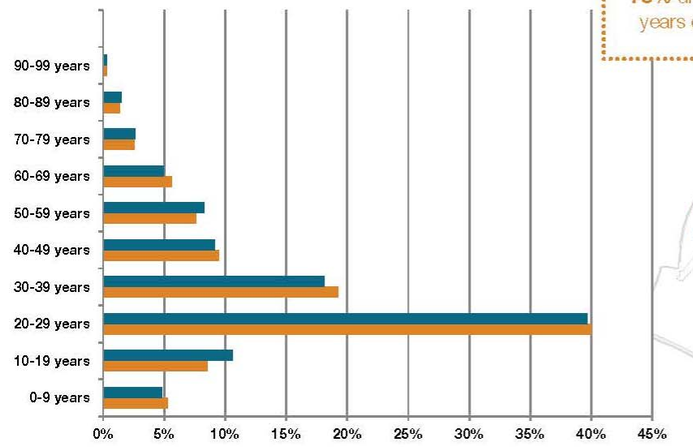
Local

5.3 Key demographics for the City of Melbourne

This section presents some of the key demographics that influence road safety for pedestrians, cyclists and motorcyclists.

AGE PROFILE

73% under 40 years of age

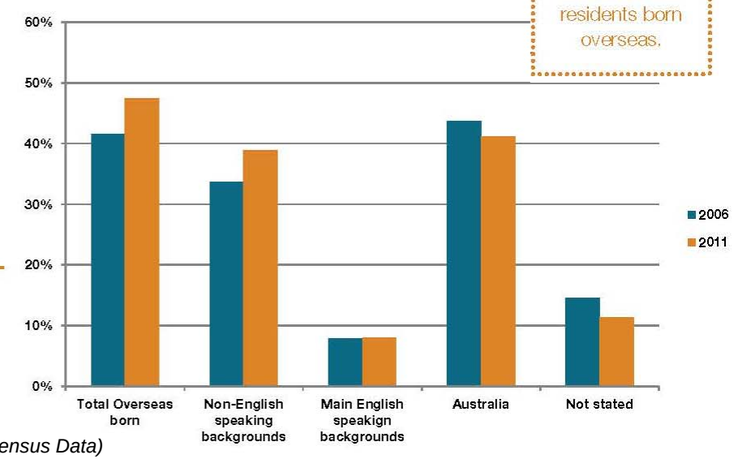


(Source: Census Data)

Just over half (55%) of all residents are under 30 and almost three quarters (73%) are under 40. Most age groups have increased since the 2006 Census, with the exception of 10-19 year olds.

BORN OVERSEAS

48% of the residents born overseas.

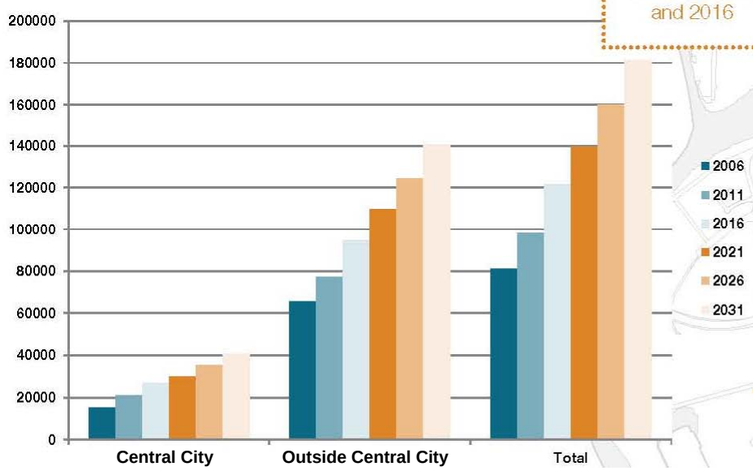


(Source: Census Data)

Residents born overseas now represents almost half (48%) of the population of the municipality, with 38% coming from a non-English speaking background. Cultural differences often mean different attitudes and practices towards road safety.

POPULATION GROWTH

50% growth between 2006 and 2016

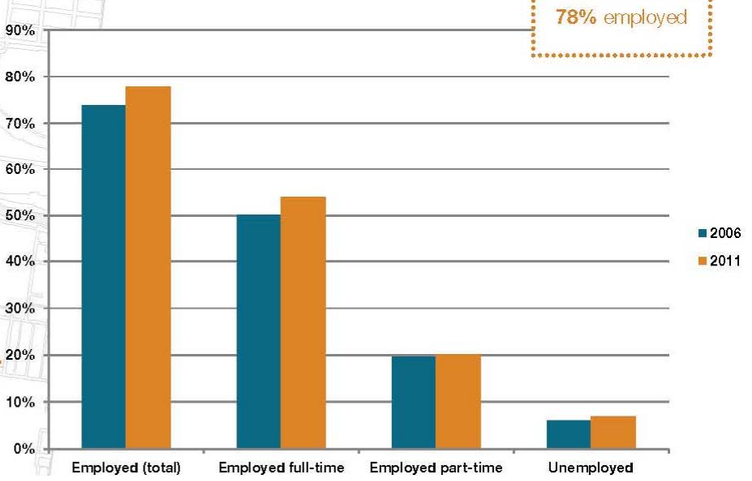


(Source: Census Data and City of Melbourne Daily Population Estimates and Forecasts)

The residential population of the municipality has increased by 21% between 2006 and 2011 – from 81,000 to 98,000. The residential population is predicted to grow by 85% between 2011 and 2031 – from 98,000 to 181,000. The level of growth is predicted to occur almost evenly within and outside the central city (93% within the central city compared to 82% outside the central city). The daily population of the city in 2011 was estimated at 789,000 and is expected to grow to 1,208,000 by 2030[1], placing significant pressure on the city's transport infrastructure to support the safe movement of people to and within the municipality.

EMPLOYMENT STATUS

78% employed



(Source: Census Data)

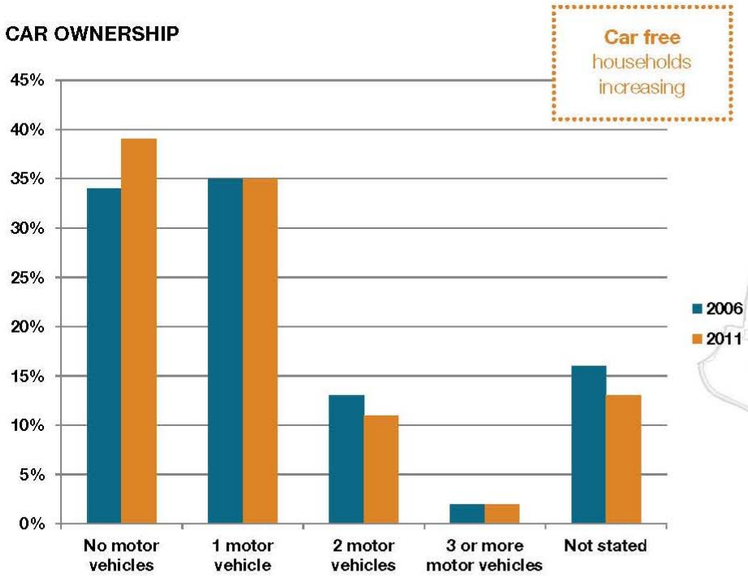
Levels of employment have risen from 74% in 2006 to 78% in 2011. Full-time employment levels have risen from 50% in 2006 to 54% in 2011, and part-time employment levels have remained the same. High levels of employment combined with the rising residential population, most of whom work within the municipality and travel by walking, cycling, motorcycling and public transport, will increase demand for a safer urban environment for non-car-based travel.

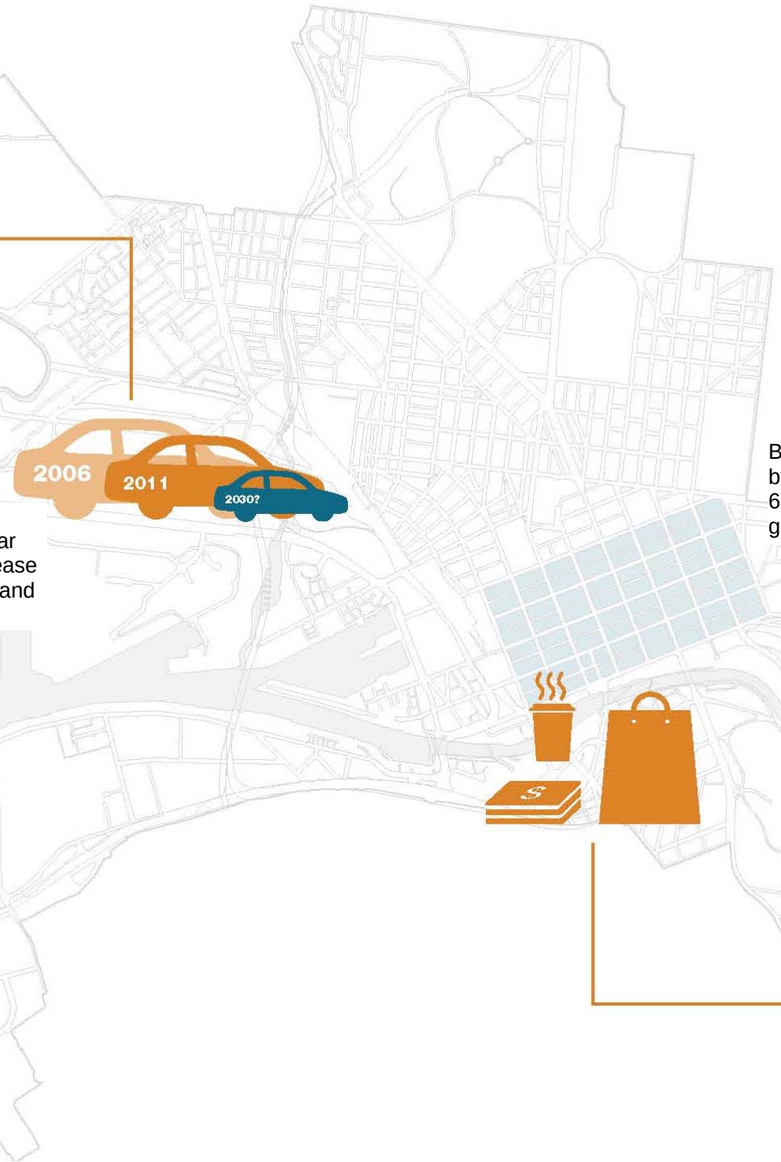
[1] *City of Melbourne Daily Population Estimates and Forecasts 2011*

5.4 Travel patterns and behaviour for the City of Melbourne

This section presents some of the key statistics and trends for travel patterns and behaviour that can influence road safety for pedestrians, cyclists and motorcyclists.

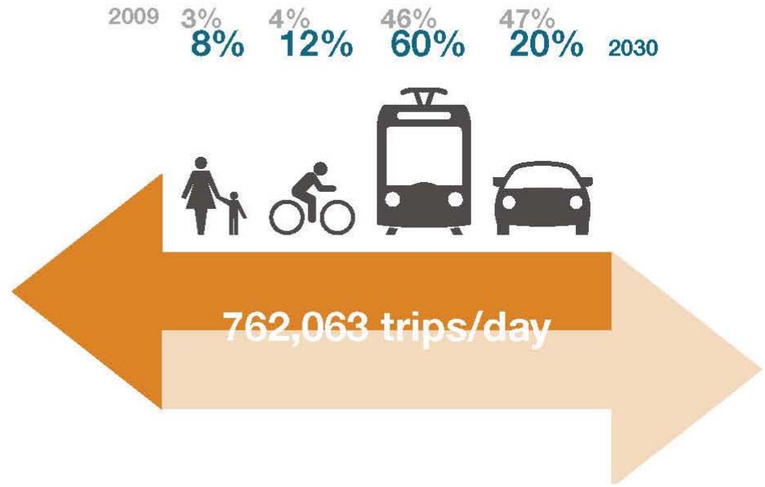
CAR OWNERSHIP





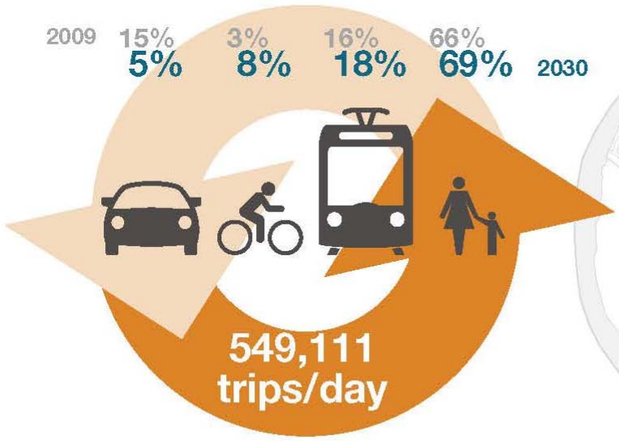
Based on census data, car ownership in the City of Melbourne is declining with the proportion of car-free households increasing from 34% to 39%. While two and three car households have declined slightly (in absolute numbers), there has been a slight increase in one car households. Lower levels of car ownership and use will likely increase demand for walking (including public transport), cycling and motorcycling.

MOVEMENTS BY MODE TO THE CITY OF MELBOURNE



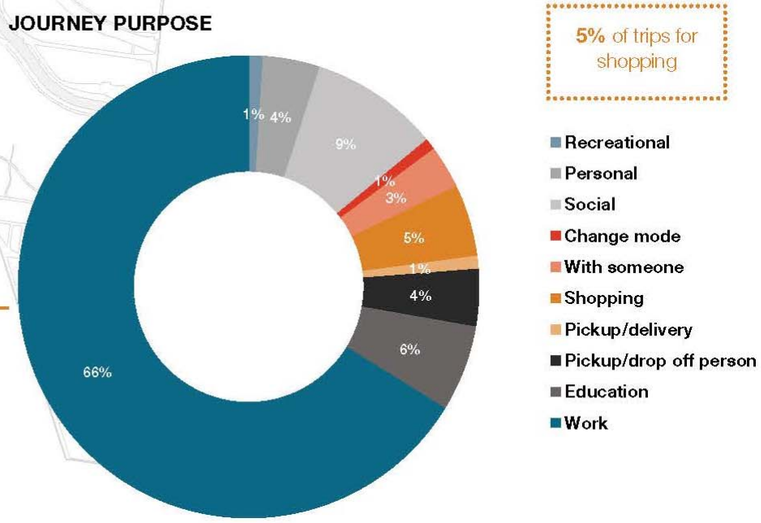
Based on the 2009 VISTA data, 47% of all trips to the city were made by car and 46% by public transport. By 2030, it is predicted that just 20% of trips will be by car and 60% will be by public transport. With all public transport trips incorporating walking, greater demand will be placed on the city's pedestrian infrastructure.

MOVEMENTS BY MODE WITHIN THE CITY OF MELBOURNE



Based on the 2009 VISTA1 data, two thirds of all trips within the city are by walking, with just 15% made by car. By 2030 the City of Melbourne has targeted that just 5% of all trips will be made by car[2].

JOURNEY PURPOSE

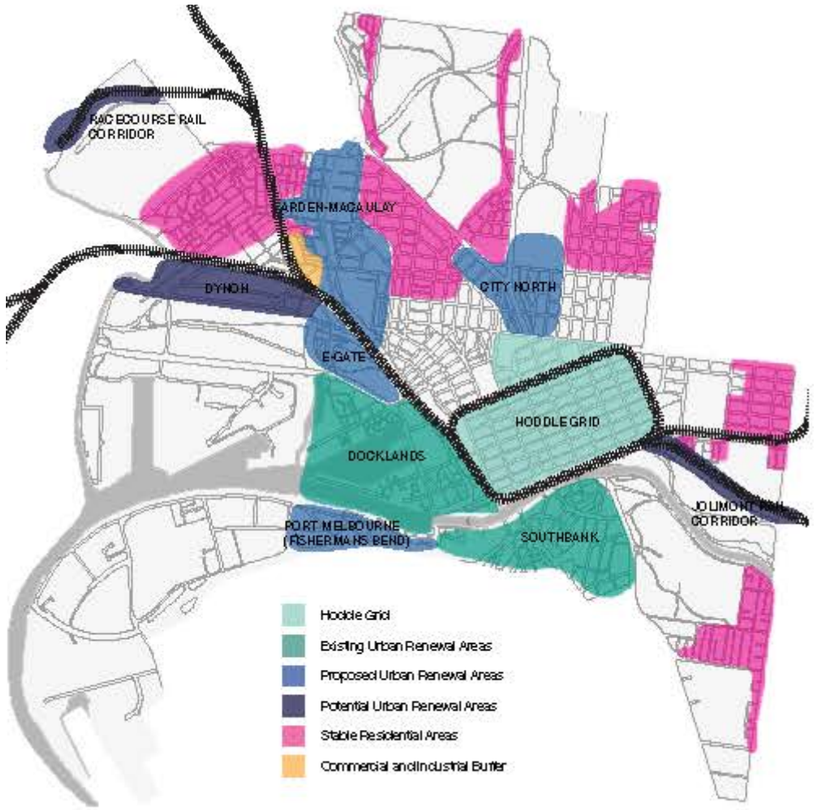


Based on the 2009 VISTA[1] data, two thirds of all journeys are work-related. According to 2011 census data, almost three quarters (74%) of all workers in the city live outside the municipality.

[1] *Victorian Integrated Survey of Travel and Activity (excludes through traffic)*
[2] *2030 mode share figures are based on targets contained in the City of Melbourne Transport Strategy 2012*

5.5 Land development areas

The map below shows the planned growth areas, based on Future Melbourne. Although significant growth will occur after 2017, the road safety actions should consider the long-term development of the City, to provide a foundation for the future travel by walking (including access to public transport), cycling and motorcycling.



(Source: Future Melbourne)

CHALLENGES FOR ROAD SAFETY

(1) Growing population

Planned growth in areas including the Docklands, Southbank and Fishermans Bend precincts, together with the normal growth of established areas, will increase demand for walking, cycling and motorcycling, particularly in the central city. This will put pressure on existing infrastructure to support the safe and convenient movement of people for a range of activities during the day and at night.

(2) Growing diversity of population

The growing diversity of people, particularly those born overseas and from non-English speaking backgrounds (currently 49% of the resident population[2]) presents a challenge in terms of cultural attitudes and practices towards road safety. Road safety actions should take account of these cultural differences, particularly in the design and delivery of behavioural programs.

(3) Growing demand for public transport

The growing demand for public transport services, particularly for travel to the central city (expected to reach 60% of all trips by 2030) will increase pressure on the capacity of the footpath network, particularly within close proximity of rail stations and tram stops (e.g. at the University of Melbourne and at the Flinders Street, Southern Cross and Melbourne Central Stations).

(4) Growing demand for the flow of non-motorised traffic

Pedestrians already represent two thirds of all trips in the central city and this is expected to rise to 80% by 2030. However, the current traffic signal system supports the movement of traffic, creating a barrier for pedestrian movement (e.g. King Street). The priority of movement within the central city will need to be carefully considered to cater for the growth in pedestrian movement.

[2] *Census Data 2011*

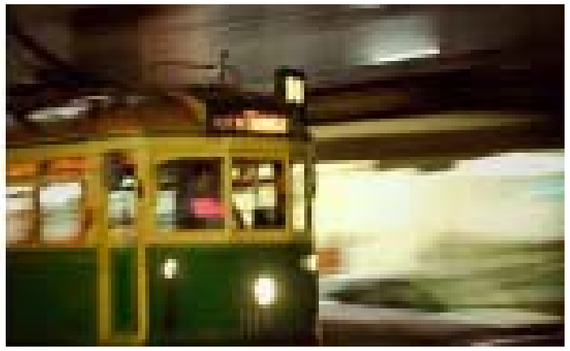
5.6 The city at night

The following issues have been based on the Dusk to Dawn: The Night Time Experience in the City study (Sweeney, 2012) commissioned by the City of Melbourne. These key issues should be considered in terms of the road safety challenges related to the growth of the City.

ROAD SAFETY ISSUES AT NIGHT

(1) The influence of alcohol

Alcohol is a prominent feature of the central city's nightlife, particularly on weekends. The consumption of alcohol is strongly associated with risk-taking behaviour (e.g. illegal street crossing). Alcohol impairment exacerbates road safety issues and reduces the actual and perceived safety of the central city at night.

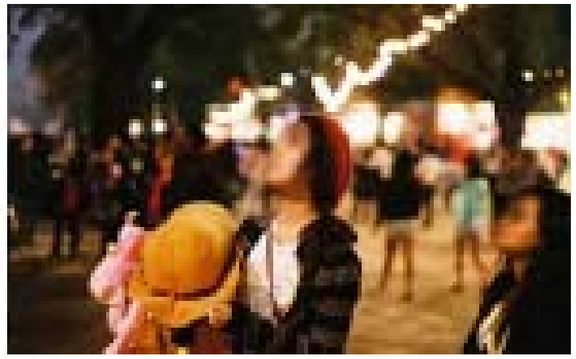


(2) Limited transport options at night

The lower level of public transport services at night, particularly on weekends, increases the time people spend on the street (e.g. searching for a taxi or walking home). When combined with higher levels of alcohol use, there is a greater likelihood of risk-taking behaviour.

(3) The concentration of people at rail stations and taxi ranks

The use of public transport, particularly during the evenings and/or at night when alcohol consumption is high, results in concentrations of people at train stations and taxi ranks (e.g. Flinders Street), increasing the potential for risk-taking behaviours at crossings and on crowded footpaths.



(4) The changing demographic at night and on weekends

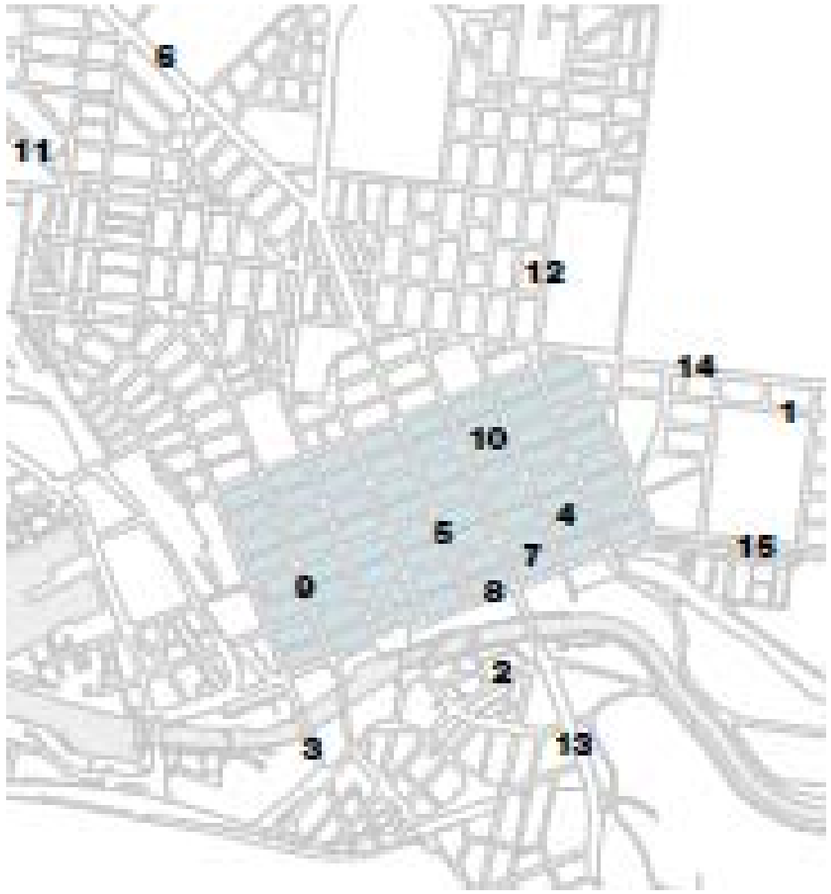
Younger people are more strongly associated with anti-social behaviour and risk-taking – 38% of pedestrian crashes involved people aged 21-30. They are also more likely to take public transport and congregate around public transport nodes. With 60% of the people in the city at night under 40, there is greater potential for risk-taking behaviour. The city also hosts many visitors from adjoining municipalities who are less familiar with the urban environment and are potentially at greater risk as a result.

5.7 The road environment

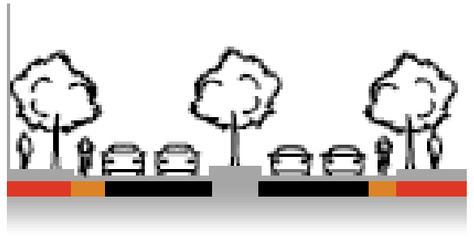
This section presents a visual summary of the range of roads in the municipality, illustrating the current allocation of space by user. Although this is a small proportion of all roads, it is clear that road space allocation still favours motorised traffic, with little dedicated space for cyclists, and where trams are often required to share space with cars and trucks.

While the VicRoads' SmartRoads map shows no 'preferred traffic routes' in the central city, both King and Spencer streets are identified as 'traffic routes' and are therefore important traffic distributors. There are also a number of local roads that carry an important traffic distribution function.

The majority of the roads in the municipality are prioritised as tram, pedestrian and cyclist routes. This suggests that there could be opportunities to enhance priority for pedestrians and cyclists (e.g. reducing delays at signalised intersections, providing mid-block crossings and providing dedicated and where possible separated space for cyclists).

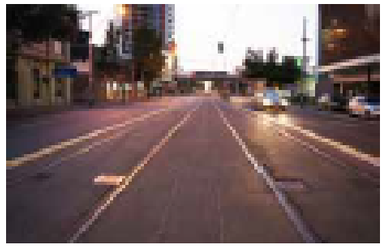


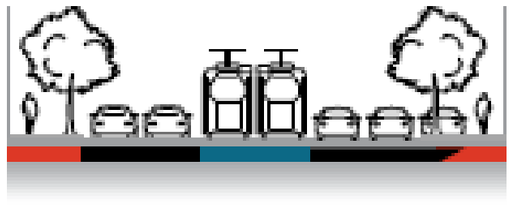
1. Albert Street



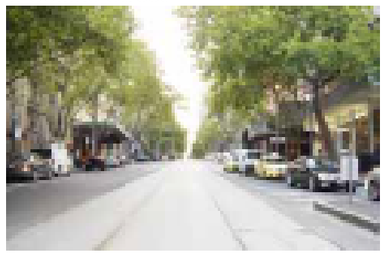
2. City Road (Arterial Road)

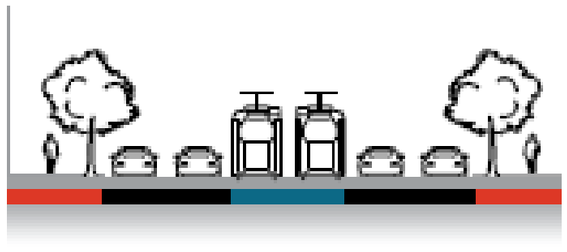
3. Clarendon Street (Arterial Road)



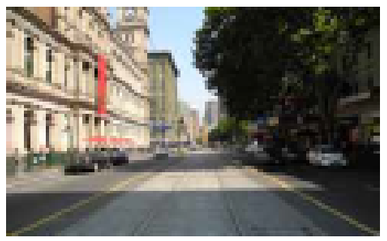


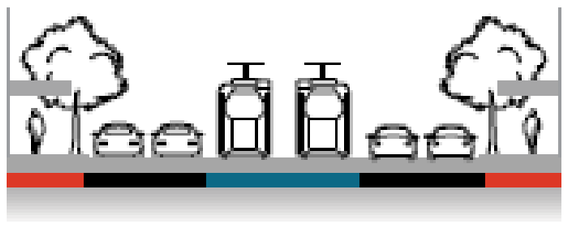
4. Collins Street



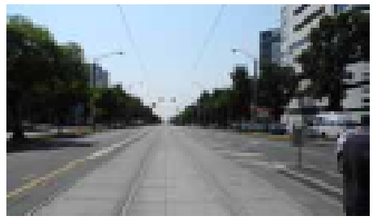


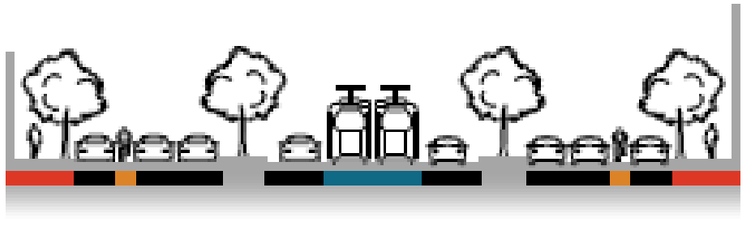
5. Elizabeth Street



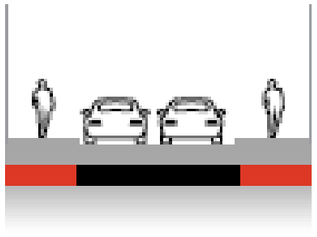


6. Flemington Road (Arterial Road)

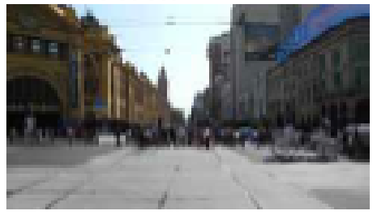


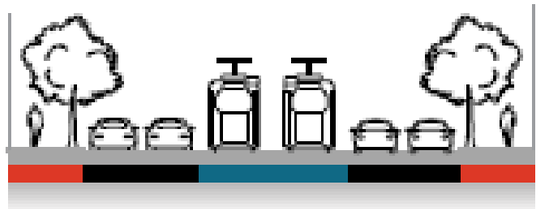


7. Flinders Lane

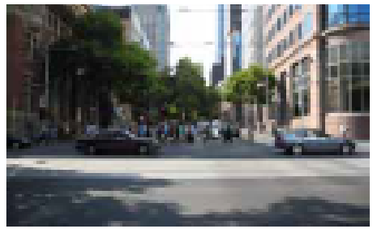


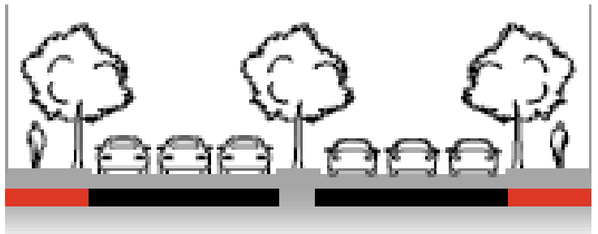
8. Flinders Street



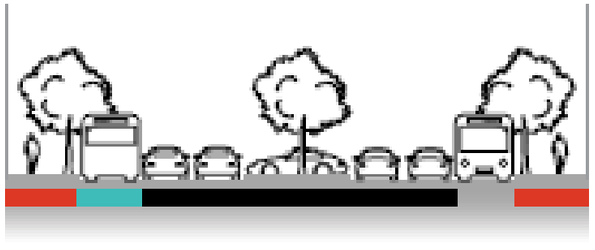


9. King Street (Arterial Road)

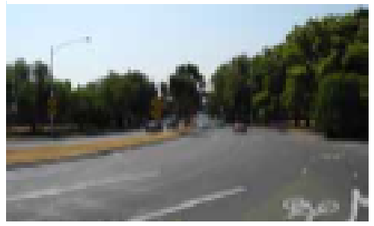


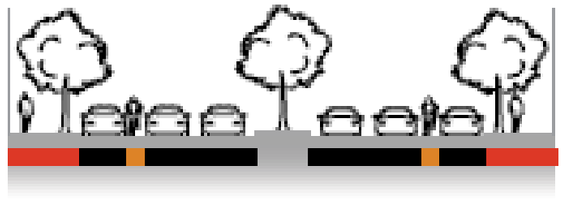


10. Lonsdale Street

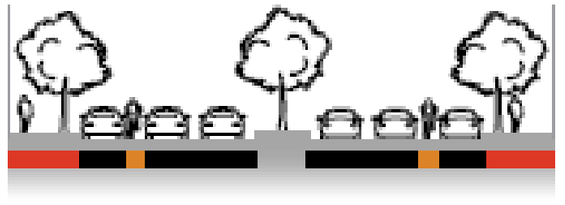


11. Macaulay Road (Arterial Road section shown)

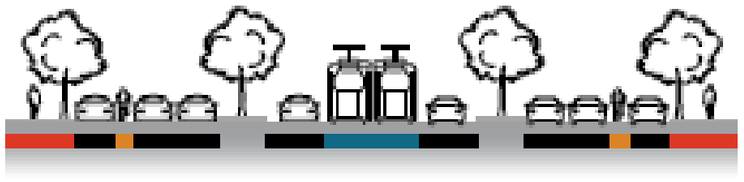




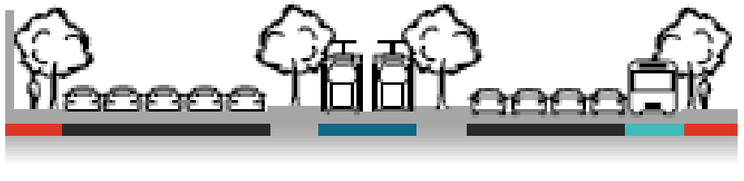
12. Rathdowne Street



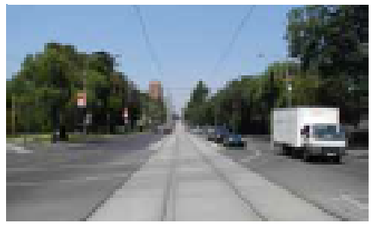
13. St Kilda Road

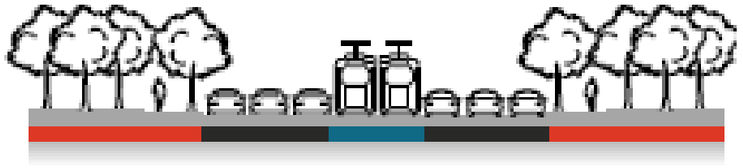


14. Victoria Parade (Arterial Road)



15. Wellington Parade





5.8 Road crash statistics

This section presents a summary of the key casualty crash statistics for the period between Jan 2007- Dec 2011, which is the latest complete five-year period available.

The crash data has been obtained from the VicRoads' publicly-accessible crash database, CrashStats. CrashStats contains information on casualty crashes that are reported to Victoria Police. A casualty crash is defined as a crash in which somebody is injured and needs treatment or hospitalisation. Crashes that result in property damage only or those not reported to or by the Police, are not included in this database.

In this analysis, the crash performance of the City of Melbourne municipality and the central city (area defined on page 5) are compared to the Melbourne Metropolitan Area (MMA) and Victoria. The purpose of this is to determine whether the City is performing better or worse than the MMA and Victoria, and where any key areas of interest lie.

It is noted that the new 40 km/h speed limit in the Hoddle Grid came into effect after this review period.

LIMITATIONS OF CRASHSTATS

The following extract is from the VicRoads website section on CrashStats and identified the limitations of CrashStats data:

Completeness of data

In December 2005, Victoria Police implemented a new application called the Traffic Incident System. TIS is used to record details of road crashes and is the source of the data that is available in CrashStats. When a crash record is processed within TIS, it is assigned a unique status such as 'Draft or 'Ready for Review' or 'Approved'. An 'Approved' incident means that the record has been finalised and is ready for coding and analysis by VicRoads. VicRoads can only process 'Approved' incidents and these records are subsequently loaded into CrashStats. Unfortunately, not all incidents are available within CrashStats i.e. the data is 'incomplete'. Various reasons for this include:

• an incident has not yet been approved by Victoria Police, perhaps due to ongoing investigation and/or prosecution via the courts.

• an incident has been approved but cannot be processed by VicRoads, due to incorrect and/or missing information.

• the incident record has been returned to Victoria Police for amendment.

(a) For 2009, approximately 99.9% of incidents have been provided to VicRoads (b) For January-May 2010, approximately 0.4% of incidents have not yet been provided to VicRoads (c) For June-December 2010, approximately 2.6% of incidents have not yet been provided to VicRoads.

In addition, it is well understood that many crashes involving pedestrians, cyclists and motorcyclists are not reported unless someone is killed or seriously injured.

(Source: VicRoads website - CrashStats)

COMPARISON WITH PREVIOUS PLAN

A direct comparison with the CrashStats review from the previous road safety plan (covering the period from 1 July 1997 - 30 June 2002) has revealed:

• The proportion of crashes involving pedestrians, cyclists and motorcyclists has increased from 41.9% to 65.5% in the municipality, and from 56.0% to 79.8% in the central city.

• The proportion of pedestrian crashes has increased from 20.6% to 22.9% in the municipality and from 31.3% to 34.8% in the central city.

• The proportion of cyclist crashes has increased from 9.8% to 26.5% in the municipality and from 11.5% to 28.9 in the central city.

• The proportion of motorcycle crashes has increased from 11.5% to 16.1% in the municipality and from 13.2% to 16.1% in the central city.

Numbers of crashes:

Road users	Municipality		Central city	
	1997-2002	2007-2011	1997-2002	2007-2011
Pedestrians	1,169	965	543	474
Cyclists	555	1,118	200	394
Motorcyclists	654	677	229	220
Other	3,296	1,455	763	276
Total	5,674	4,215	1,735	1,364

Percentages of crashes:

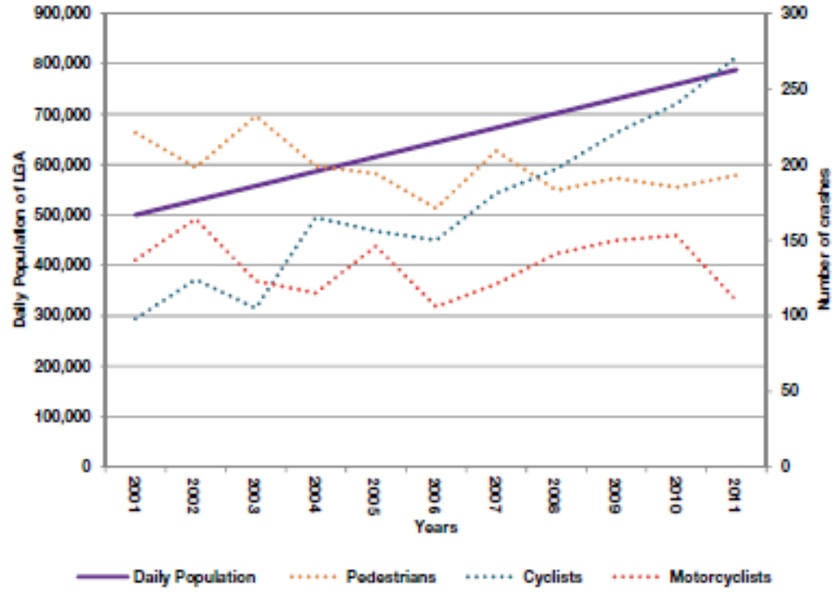
Road users	Municipality		Central city	
	1997-2002	2007-2011	1997-2002	2007-2011
Pedestrians	20.6%	22.9%	31.3%	34.8%
Cyclists	9.8%	26.5%	11.5%	28.9%
Motorcyclists	11.5%	16.1%	13.2%	16.1%
Other	58.1%	34.5%	44.0%	20.2%
Total	100.0%	100.0%	100.0%	100.0%

Although there is a concerning increase in the level of crashes involving pedestrians, cyclists and motorcyclists, these changes should be considered within the context of changing populations and travel patterns to and within the City.

RISK EXPOSURE

Changes in daily population

The following chart is based on data from the City of Melbourne Daily Population Estimates and Forecasts 2011 and CrashStats for the period 2001-2011 (covering the CrashStats review periods from the previous and current road safety plans).



The data shows that the risk exposure for pedestrians and motorcyclists is trending downwards despite rising daily population levels, whereas the risk exposure for cyclists is surpassing daily population growth.

Changes in travel patterns

The following table is based on the 2001 and 2011 Census data for travel to work. 2001 represents the most appropriate Census year for the CrashStats review undertaken in the previous road safety plan (1997-2002) and 2011 represents the most appropriate Census year for the CrashStats review period undertaken in this plan (2007-2011).

	Crashes per 100,000 trips		
Road Users	2001	2011	Change
Pedestrians	16	5	-66%
Cyclists	77	45	-42%
Motorcyclists	637	188	-71%

On a per trip basis:

• Walking is statistically much safer than cycling and motorcycling with the risk exposure rates significantly lower in 2011 than a decade previously.

• Motorcyclists are significantly more exposed to risk than both pedestrians and cyclists, however their exposure rates appears to have fallen by almost three quarters in the decade 2001-2011.

The comparison of crashes against population changes and travel pattern changes present differing pictures of the change in risk for pedestrians, cyclists and motorcyclists. Overall, it could be argued that risk is decreasing for all three road users, although at a much slower rate for cyclists. In terms of how these findings should guide the selection of road safety measures, clearly cyclists require particularly attention. However, the key principle of the Safe System Approach, which provides the framework for the development of the plan, is that "all injuries are unacceptable", and therefore road safety actions should aim to improve the safety of all road users.

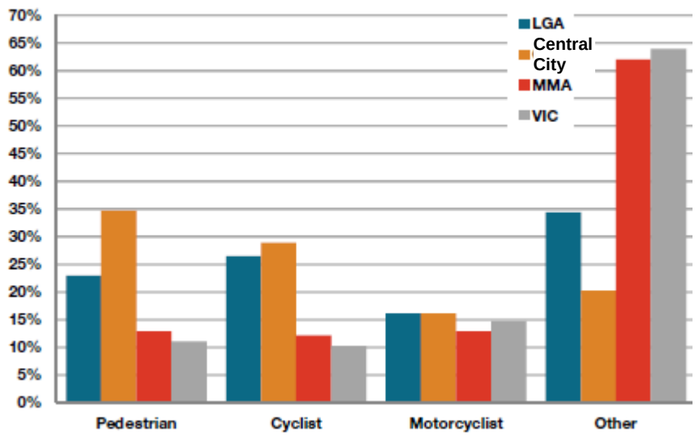
Key results

This section presents a summary of the key results from the review of CrashStats.

Abbreviations

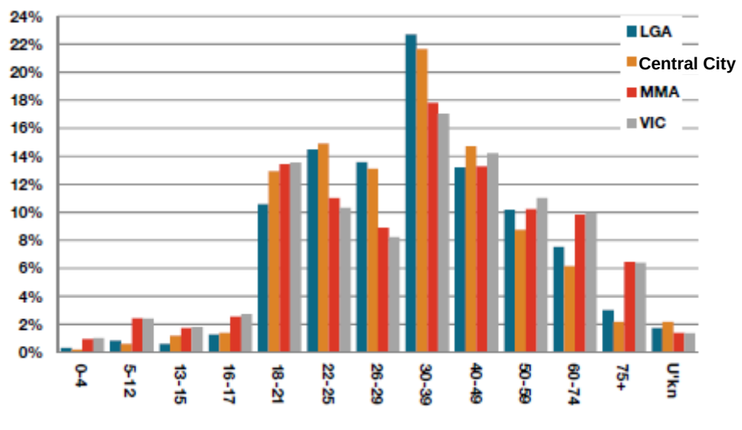
LGA	Local Government Area/Municipality
Central City	Refer to map on page 5
MMA	Melbourne Metropolitan Area
VIC	Victoria

CRASHES BY ROAD USER



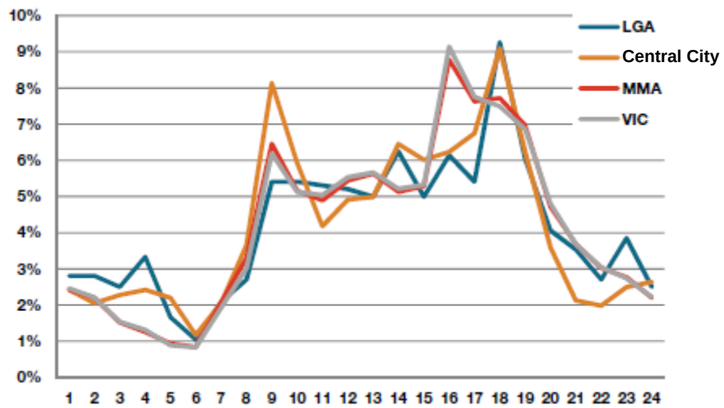
Pedestrians, cyclists and motorcyclists account for 65.5% of all crashes in the municipality and 79.8% in the central city.

AGE PROFILE



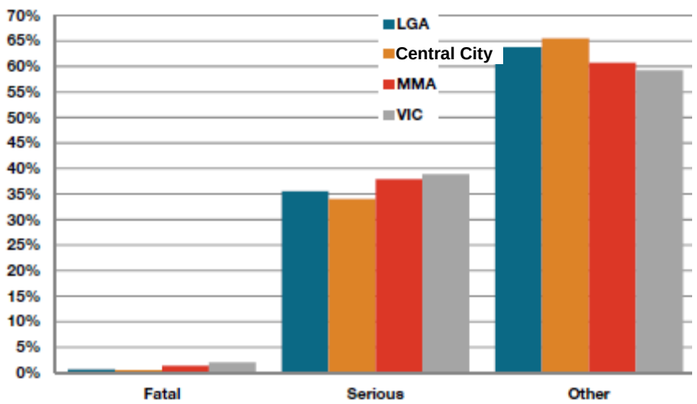
The 30-39 age groups are most prevalent for all injuries across all geographical areas.

TIME OF DAY



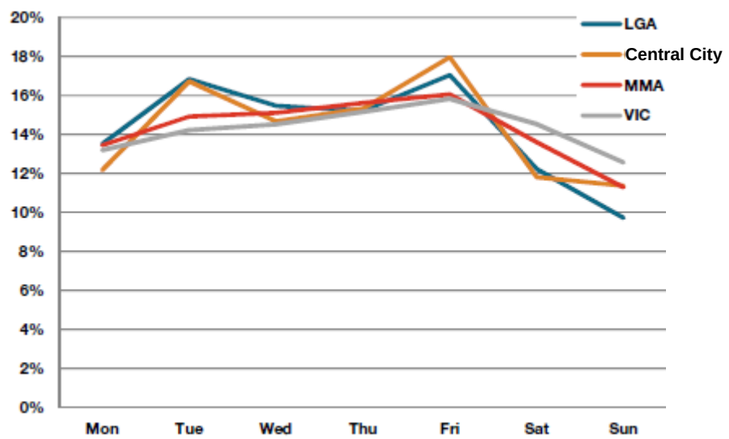
The time of day generally follows the peak travel times (i.e. 0800-0900 and 1700-1800).

INJURY SEVERITY



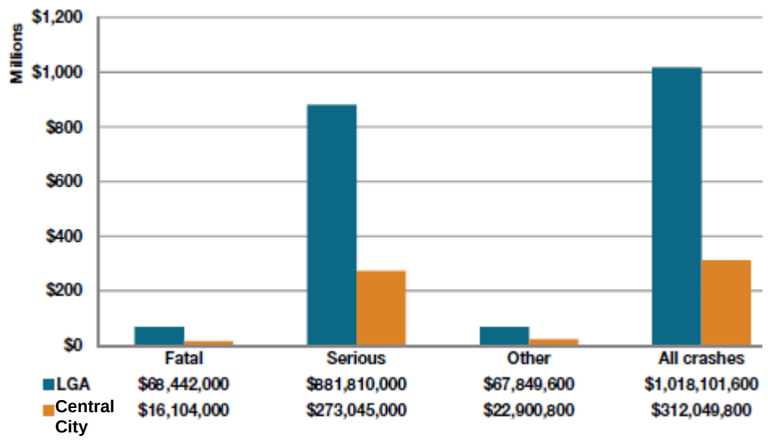
There is little difference in injury severity across the four geographical areas. However, serious injuries are slightly lower within the central city and municipality.

DAY OF WEEK



Crashes peak on a Tuesday and Friday in both the municipality and the central city, although slightly higher on the Friday.

COST OF CRASHES

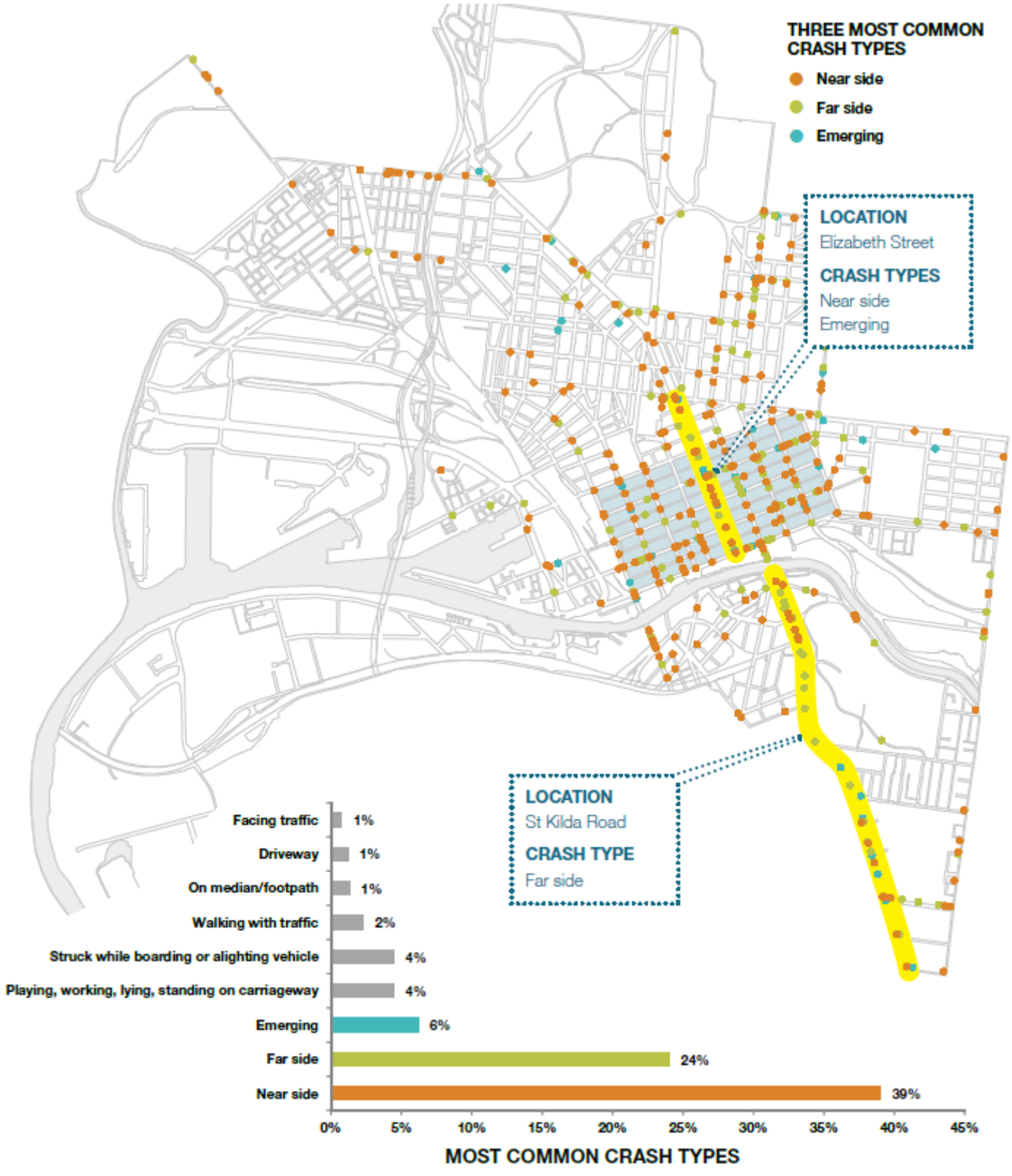


Serious crashes account for almost 90% of the total cost of crashes in the municipality

PEDESTRIAN CRASHES

Locations of main crash types

(Source: 2007-2011 CrashStats –refer to Appendix A for definitions of crash types)



Injury severity

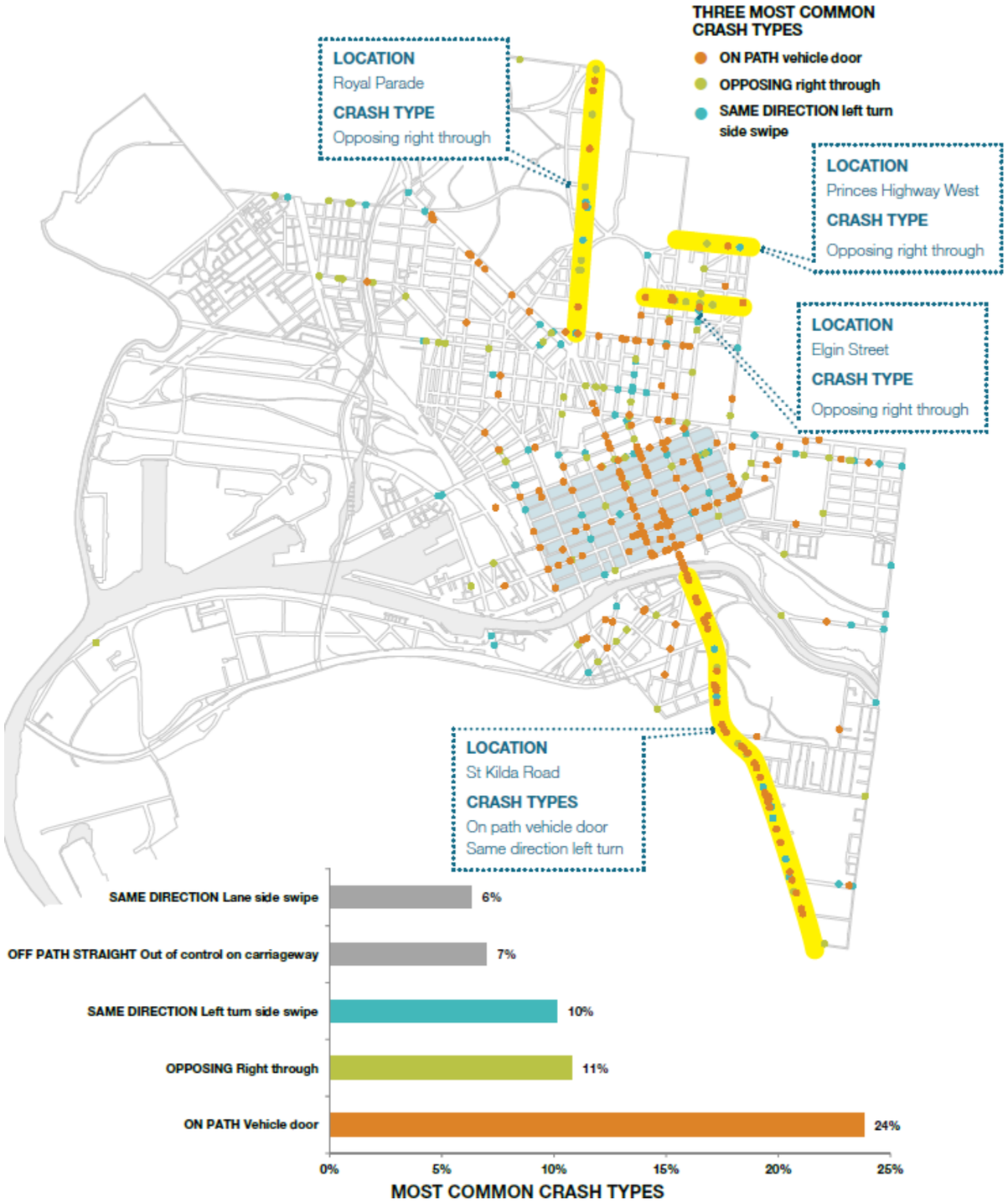
(Source: 2007-2011 CrashStats)

FATALITIES AND INJURIES BY AGE GROUP

CYCLING CRASHES

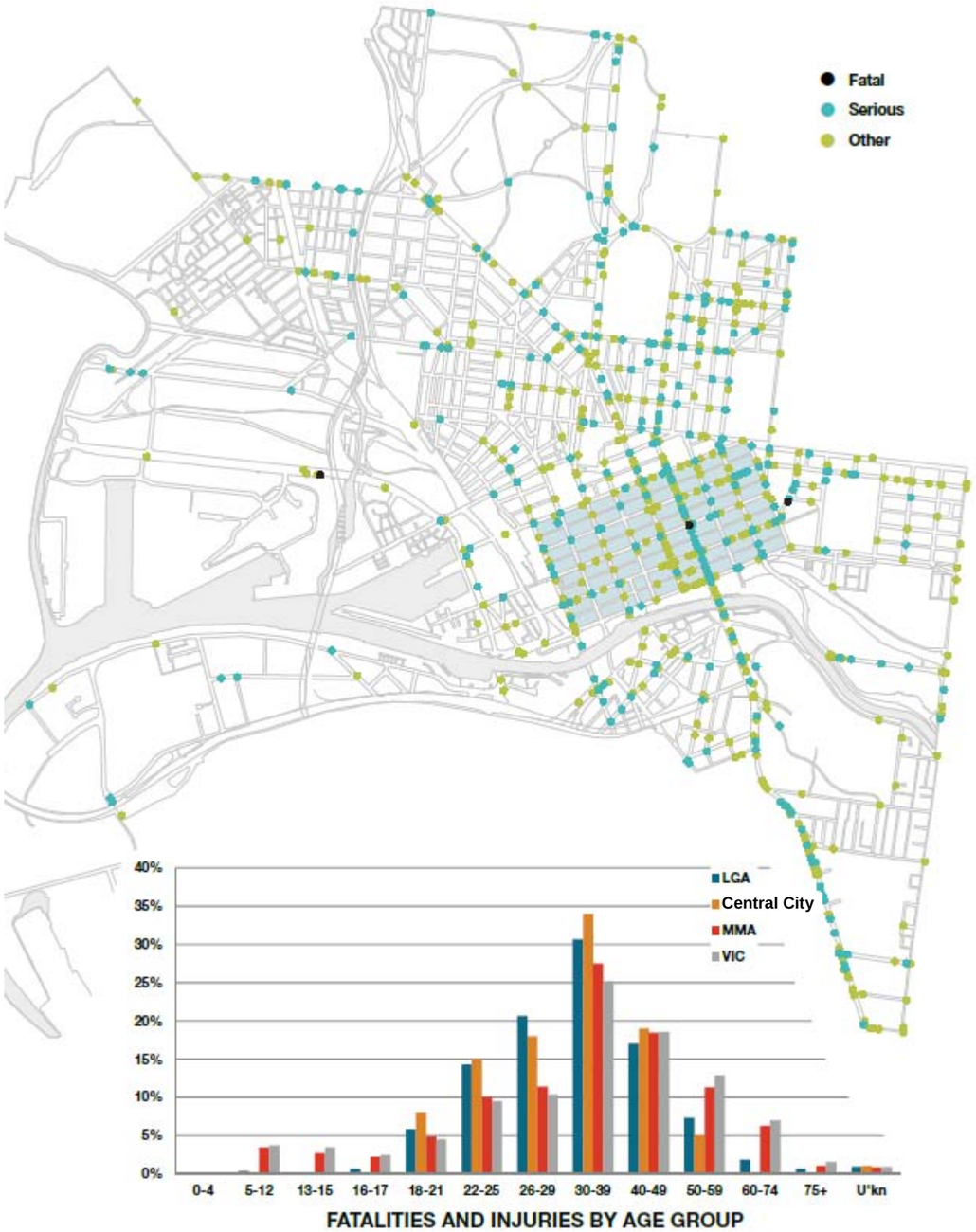
Locations of main crash types

(Source: 2007-2011 CrashStats –refer to Appendix A for definitions of crash types)



Injury severity

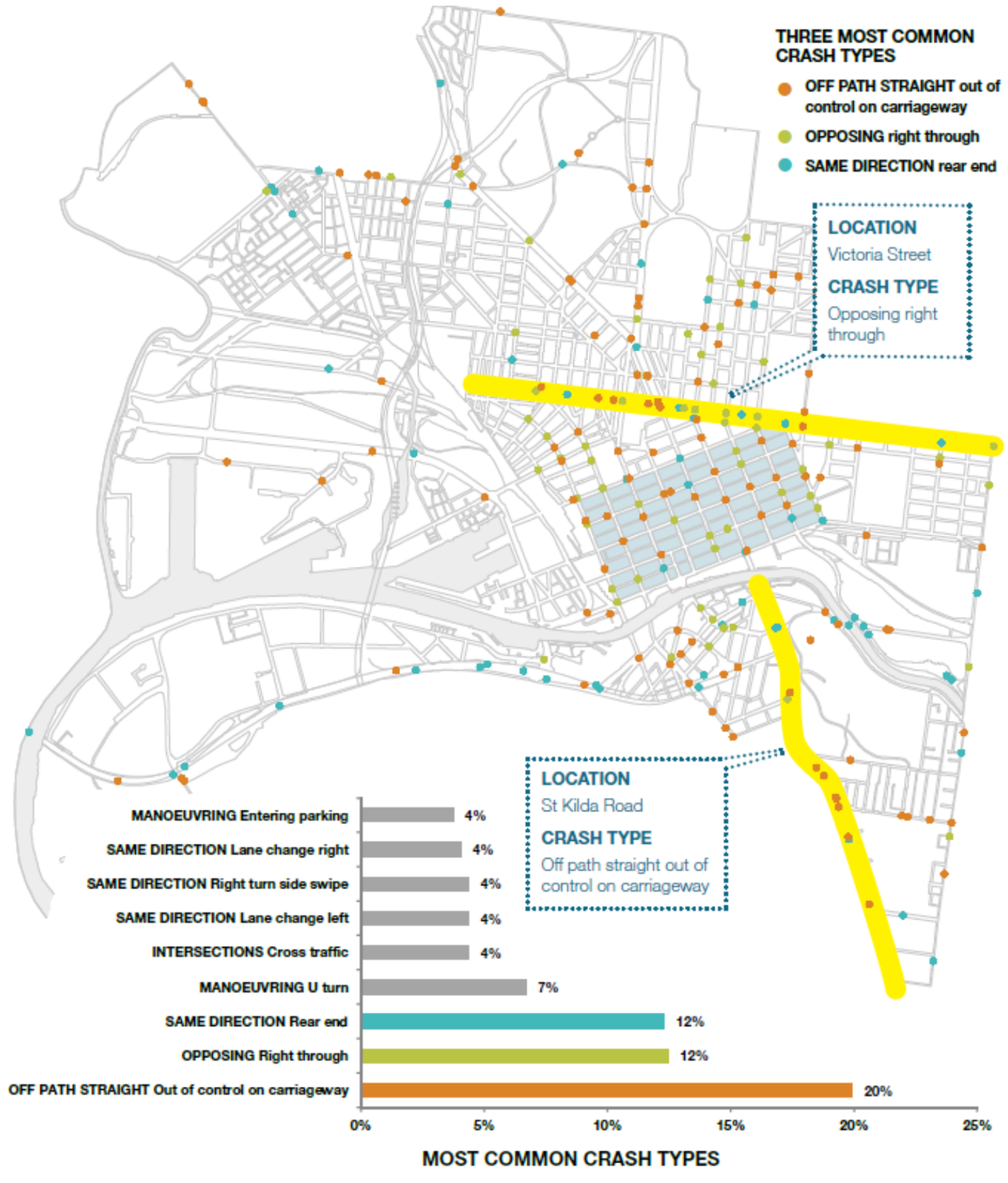
(Source: 2007-2011 CrashStats)



MOTORCYCLE CRASHES

Locations of main crash types

(Source: 2007-2011 CrashStats –refer to Appendix A for definitions of crash types)



Injury severity

(Source: 2007-2011 CrashStats)

ANALYSIS INVOLVING VULNERABLE ROAD USERS

WHO

There is a much higher proportion of vulnerable road users involved in the crashes in the City of Melbourne (vulnerable users are involved in 65% of all crashes in the municipality) compared to other parts of Victoria (38%), with the proportion in the central city higher again (80%). Consequently, when addressing road safety in the City of Melbourne, vulnerable road users are clearly a priority road user group.

The chance of being seriously injured or killed in a crash in the City appears to be lower than in other parts of the State.

Several age groups stand out as being more vulnerable in the municipality and central city than in other areas. However, they are generally the age groups that are likely to be most represented among city workers, such as the 18 - 59 age groups. This does not suggest particular road safety vulnerability for this age group, rather that there is a greater exposure in the group to being involved in a crash. In total, less than 3% of all crashes across the municipality involve a person under the age of 18, compared to approximately 7% for Victoria.

WHEN

Fridays and Tuesdays in the central city and municipality experience proportionally more crashes than Greater Melbourne and Victoria. Conversely, weekends experience proportionally fewer crashes. This is likely to be a reflection of the number of people in the city on those days. Tuesday is an anomaly that is difficult to explain by the crash data, although there may be other data sources that could shed light on this statistic.

Crashes typically occur most often during the morning and evening peak periods. In the central city and municipality, the evening peak typically occurs slightly later (due to more office workers, fewer schools, etc.) and over a longer duration compared to other metropolitan areas.

HOW

Pedestrians

The most common crashes involving pedestrians occur as they cross the road (near-side and far-side type crashes). It is not clear whether this is an issue of overcrowding on street corners forcing pedestrians onto the road, although anecdotal evidence suggests that this may be a problem at some locations, or poor judgement on the part of some pedestrians and drivers. Excessive speed is a key contributory factor in these crashes, reducing driver reaction distances and increasing injury severity. Although alcohol and driver distractions are contributing factors in these crashes, this information is not recorded in the crash data - a significant deficiency of how data is currently collected and recorded.

The third most common pedestrian crash type was pedestrians being struck as they emerge from behind obstacles such as a parked cars, or cross the road between queued vehicles. There are engineering measures that can be used to mitigate such crashes, which are explored later in the report.

Cyclists

Car dooring is by far the most common crash type involving cyclists, which is true for most locations that have been investigated. Various physical, regulatory and behavioural techniques are available to address car dooring, which is a priority of the Plan. Another common crash type was right-through, which involved cyclists being struck when turning right at intersections. There are a number of potential reasons for this, including:

- Not allowing sufficient gaps when turning right, exacerbated by speed differential between cyclists and other traffic; and
- Motorists not seeing cyclists adequately.

Cyclists struck by vehicles turning left (left turn side swipe) was also a common crash type. These crashes may be indicative of poor visibility on the left side of vehicles or lack of observation by drivers. Engineering techniques to resolve this type of incident may include the use of vibra-line marking, banning left turns at some locations or other appropriate physical treatments at site-specific locations. While engineering treatments may be suitable on a site-by-site basis, the Plan also seeks to address the problem with a number of behavioural techniques.

Motorcyclists

The most common crash type for motorcyclists was out of control on the carriageway. These crashes are typically single-vehicle crashes, with potential causes including speeding, loss of traction in the wet, on tram tracks or pit covers, and debris on the road. However, the statistics fail to record a significant number of the crashes resulting from motorcyclists compensating for the behaviour of other road users (e.g. sudden lane changes by motor vehicles). As such, these crashes are not actually ‘single-vehicle crashes’, which is another deficiency of the data collection. Motorcycles are inherently more vulnerable to losing control as they are less stable than cars and there are few physical measures that can be used to mitigate loss of control. Some of these are discussed later in the report.

Another common crash type involving motorcyclists were right-through crashes. These crashes typically occur due to similar reasons as those outlined above for cyclists.

Rear end crashes are the third most common crash type for motorcyclists. During the five-year study period, there were 80 rear end motorcycle crashes. A number of factors could influence these crashes, including the acceleration and braking characteristics of motorcycles, their visibility on the road, loss of traction on some road surfaces or in the wet, and inappropriate speed. Many of these issues cannot be addressed by physical treatments, so behavioural techniques should be used to reduce the incidence of these crashes.

HOW MUCH

The cost of all crashes in the municipality over the subject five-year period amounts to just over $1 billion. This is made up primarily from serious crashes, whilst fatal and other severity crashes together account for only approximately 13% of the total cost.

Queensberry Street, Carlton

CRASHES INVOLVING ALL ROAD USERS

While the plan focuses on the crashes involving vulnerable road users (i.e. pedestrians, cyclists and motorcyclists), it is important to ensure that both the incidence and the severity of all crashes are minimised. This section provides an analysis of the crash types and injuries involving all road users.

The table below lists the number of people killed, seriously injured and with non-serious injuries in the municipality during the five-year study period (from January 2007 – December 2011).

Number of people	All road users	Pedestrians	Cyclists	Motor-cyclists	Drivers	Passengers[1]
Killed	34	15	2	5	5	6
Seriously injured	1,618	401	327	269	401	208
With non-serious injuries	3,262	545	776	365	1,064	500

The table below lists the ten most common crash types in the municipality during the five-year study period, involving all road users. A list of all crash types is shown in Appendix B.

DCA No.	Crash Type	Number of crashes
130	Rear end	587
121	Right through	432
100	Pedestrian near side	359
163	Vehicle strikes door of parked vehicle	270
110	Cross traffic	243
102	Pedestrian far side	221
174	Out of control on road on straight	205
109	Other pedestrian	151
140	U-Turn	140
137	Left turn side-swipe	130

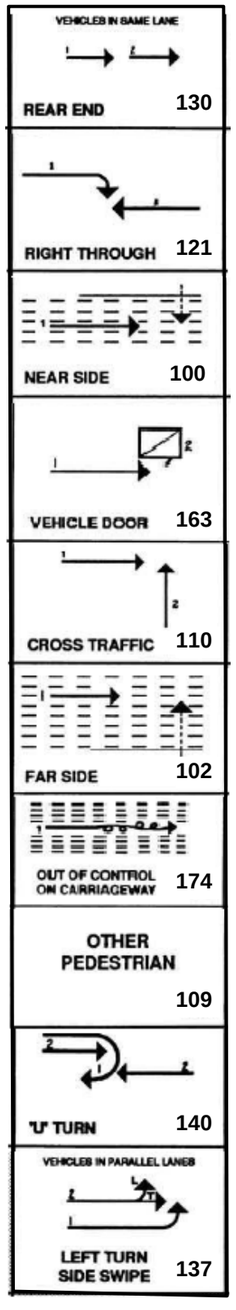
The most common crash type was a ‘rear end’ crash (DCA130, refer to diagram to the right). There were a total of 587 such crashes in the municipality during the five-year period. As shown in Appendix B, there were six pedestrian, 45 cyclists and 79 motorcyclists involved in the ‘rear end’ crashes.

The second most common crash type was a ‘right through’ crash (DCA121). This crash type involves a right turning vehicle colliding with a through vehicle at an intersection. There were a total of 432 such crashes in the municipality during the five-year period. As shown in Appendix B, there was one pedestrian, 116 cyclists and 80 motorcyclists involved in the ‘right through’ crashes.

The third most common crash type was a ‘pedestrian near side’ crash (DCA100). This crash type involves a vehicle colliding with a pedestrian stepping onto the road from the left. There were a total of 359 such crashes in the municipality during the five-year period. As shown in the Appendix B, 12 of these crashes involved cyclists striking pedestrians, and13 crashes involved motorcyclists striking pedestrians.

A map indicatively showing the crashes that occurred in the municipality during the five-year period involving all road users, both at intersections and at mid-block locations, is shown in Appendix C.

Ten most common crash types:



[1] Passengers refers to the people inside cars, vans, trucks etc.

[2] This category includes both buses and coaches, as defined in Crashstats, but excludes minibuses.

5.9 Key road safety issues for stakeholders

KEY ISSUES IDENTIFIED BY THE STEERING COMMITTEE

The current physical environment, particularly in the central city, does not support priority for pedestrians, cyclists and motorcyclists.

The lack of safe mid-block crossing points reduces the permeability of the street network and encourages illegal crossing.

The lack of capacity on footpaths, particularly at the main rail stations, forcing pedestrians out onto the roadway.

The lack of understanding among all road users of each other's needs, leading to frustration and conflict in shared space, on-road and off-road.

KEY ISSUES IDENTIFIED BY THE WIDER GROUP OF STAKEHOLDERS

The high speed of traffic reduces the safety and comfort of pedestrians, cyclists and motorcyclists.

Balancing the operational needs of businesses (e.g. deliveries) with those of pedestrians, cyclists and motorcyclists.

The need to create a safe environment where people feel welcome, comfortable and able to meet and socialise.

The lack of safe, comfortable and connected bicycle lanes.

Clutter on footpaths is a particularly barrier for people with visual and mobility impairments.

KEY ISSUES IDENTIFIED BY THE PUBLIC

Inappropriate cycling behaviour, including riding on footpaths and running red lights.

Inappropriate pedestrian behaviour, including crossing at illegal locations or against red lights.

The risk of car dooring for cyclists.

Lack of awareness of the needs of pedestrians, cyclists and motorcyclists among motorists.

The design of the road environment does not support walking, cycling and motorcycling.

5.10 Outcomes of the Previous Plan

KEY ACHIEVEMENTS

The following key achievements were noted from the review of the previous road safety plan:

- Implementation of the 40 km/h speed limit in the Hoddle Grid.
- Implementation of the 40 km/h speed limit in the Lygon Street cultural precinct.
- Installation of 'Safe City Taxi Ranks' (e.g. Queens Street).
- Installation of reduced traffic signal times in the retail core of the central city, which has resulted in reduced waiting times for pedestrians at signalised crossings.
- Delivery of actions to improve pedestrian priority and permeability, including provision of priority green time and reduced waiting time (e.g. Swanston and Elizabeth streets).
- Ongoing program of footpath widening at locations of heavy demand (e.g. Flinders Lane, Little Collins, Little Bourke, Lonsdale and Swanston streets).
- Installation of pedestrian operated signals, puffin crossings, pedestrian refuges and zebra pedestrian crossings at a number of locations.
- Program of improvements around schools (e.g. North Melbourne and South Yarra primary schools), including installation of 40 km/h speed limits, puffin crossings and several Walking Bus programs.
- Safety improvements for cyclists, including separated bike lanes on Albert Street, the redevelopment of Swanston Street and physically separated bike lanes on La Trobe Street (currently being installed).
- Application of vibra-line adjacent to bicycle lanes, that has been adopted by VicRoads as a standard treatment.
- Installation of traffic signals at high accident locations (e.g. Elgin Street / Drummond Street and Elgin Street / Cardigan Street intersections).
- Installation of a hook-turn for bicycles to enter the Queensberry Street bicycle lanes.
- Replacement of several metal plate covers with skid-resistant concrete covers, to improve conditions for motorcyclists.
- Introduction of 10km/h shared zone and intermittent closures in a number of laneways in the central city.
- Delivery of a number of behavioural programs to address safety issues for vulnerable road users (e.g. Move Mindfully).
- Installation of car sharing spaces in numerous locations in the municipality.
- Continued the rollout of the Victorian Government's Electric Vehicle Trial.
- Assisted the Victorian Government with the planning and installation of docking stations associated with its Bike Share scheme.
- Worked in partnership with Yarra Trams, VicRoads and the Department of Transport to improve public transport access in the municipality, including the installation of a number of Disability Discrimination Act compliant platform tram stops; installation of exclusive bus lanes (e.g. Lonsdale Street) and the provision of a new bus route through the Parkville Gardens Estate residential precinct.
- Holding an annual Community Safety Day event, which forms part of the Community Safety Month activities in October.

AREAS FOR IMPROVEMENT

The following areas for improvement (i.e. actions still outstanding) were noted from the review of the previous road safety plan:

- Monitoring, evaluation and reporting of outcomes from the delivery of road safety measures.
- Design and delivery of behavioural programs for road safety targeted at motorists.
- Collaboration with the business community on joint road safety initiatives.
- Appointment of a dedicated Road Safety Officer.

CHALLENGES

The following internal and external issues will continue to present challenges for the successful delivery of road safety actions if they are not addressed:

- Working more collaboratively with partners to deliver strategic initiatives across the municipality (e.g. safety improvement at tram stops for pedestrians and cyclists).
- Strengthen ties with external agencies (e.g. VicRoads) for actions that prioritise pedestrian movement over the flow of traffic, such as reduced waiting times for pedestrians at intersections.
- Engaging effectively with local businesses on road safety issues, related to their operations (e.g. delivery trucks blocking bicycle lanes).
- Integrating behavioural programs within a broader strategic framework (as opposed to ad-hoc responses to specific issues).

Abbreviations

CoM	City of Melbourne
VR	VicRoads
Police	Victoria Police
AGF	Amy Gillett Foundation

5.11 Existing behavioural programs

The following behavioural programs provide a sample of the current and previous activities undertaken by the City of Melbourne in conjunction with external agencies, to address specific and general road safety behavioural issues.

Name	Description	Lead
Move Mindfully	A campaign designed to improve the relationship of all road users, using fun and humour to encourage coexistence. The campaign included a range of collateral distributed across the community to raise awareness of other road users in specific locations of concern.	CoM
Melbourne Street Smarts	A behavioural program delivered pre and post opening of the first new tram stop platform outside the State Library on Swanston Street. The program aimed to help street users adapt to the new street environment.	CoM
Grogger Game	Online video game designed to educate the public about safe road crossing behaviour.	CoM
Red Man Green Man	A pedestrian safety campaign, launched in 2007.	CoM
Road User Or Abuser	The Road User or Abuser online campaign delivered by VicRoads was designed to improve the relationship between drivers and bike riders. The program included a Facebook page and YouTube videos.	VR
National Practices for Early Childhood Road Safety Education; Starting Out Safely; and Road Safety Education	VicRoads and the Early Leaning Association of Australia run several programs to educate younger children on road safety issues in the municipality.	VR
Operation Don't Do Your Dash	A three day TAC-funded Police operation supported by the City of Melbourne that targeted pedestrian behaviour with the aim of reducing the number of pedestrian collisions. Police issued warning and fines to anyone failing to obey traffic lights or use the designated pedestrian crossings.	Police
Operation Halo	A campaign targeting factors behind crashes involving vulnerable road users.	Police
Safe Cycle Month	The Police in collaboration with various organisations (e.g. City of Melbourne, VicRoads and the Amy Gillett Foundation) run an annual month of activities to promote safe cycling behaviour.	Police
A Metre Matters	A mass media campaign targeted at motorists with the aim of raising awareness of the importance of leaving a one metre gap when overtaking cyclists.	AGF

Swanston Street, Melbourne

5.12 SWOT analysis of the road safety system

The following SWOT analysis summaries the review of the local context in terms of road safety for pedestrians, cyclists and motorcyclists.

	Physical Environment The built and natural environment (e.g. the design of streets) which influences people's attitudes and behaviour towards road safety.	**Social Environment** The local culture, the influence of family, friends and peers, which influences people's attitudes and behaviour towards road safety.	**Policy and Regulation** Legislative, regulatory or policy making actions by local, state or federal governments, which influence people's attitudes and behaviour towards road safety.	**Intrapersonal Factors** Individual's knowledge, attitudes, health, wealth and self-efficacy, which influence their attitude and behaviour towards road safety.
Strengths	• The spatial layout of the central city supports the movement of pedestrians. • The removal of private motorised traffic from Swanston Street, including the provision of new platform tram stops, provides a more people-oriented environment. • The installation of Safe City Taxi Ranks for people using the City at night and on weekends. • The parks, green open spaces, streets and urban spaces provide a sanctuary for pedestrians away from traffic. • The increase in active ground-floor frontages in the City. • The City of Melbourne is widely regarded as a leader in urban design and has delivered many innovative measures (e.g. vibra-line for bicycle lanes).	• Decreasing levels of car ownership and use, coupled with increasing levels of walking, cycling, motorcycling, public transport and car sharing. • Increasing numbers of people living and studying in the City.	• The recent (December 2012) introduction of a 40 km/h speed limit in the Hoddle Grid. • The City of Melbourne's new Bicycle Plan and commitment to invest $5.6 million in bicycle-related infrastructure. • Policies to support living in the City, higher density and mixed-use development, and reducing car dependence.	• The growing young and highly educated population of the City are more open to change and the adoption of new ideas and behaviours. • The visibility of increasing numbers of people walking, cycling and motorcycling provides social proof to others that it is relatively safe to engage in these forms or travel, encouraging more people to adopt them, further reducing car travel.
Weaknesses	• Lack of pedestrian permeability between the central city, Flinders Street Station and Federation Square creates a barrier to pedestrian movement. • Lack of priority for pedestrians at intersections reduces the permeability of the central city (e.g. King Street). • Lack of safe mid-block crossings in the central city. • Many boulevards lack the amenity to provide a safe and attractive walking environment. • Lack of a safe, separated, connected and attractive bicycle network limits the potential for cycling. • Lack of safe bicycle and motorcycle parking encourages illegal and unsafe parking. • Cluttered footpaths limit capacity for pedestrians and create physical barriers for people with visual and physical impairments. • Some tram stop designs create difficult conditions for pedestrians and cyclists.	• The perception that cyclists are not legitimate road users and lack of awareness of their needs and rights. • Many of the users of the City do not reside in the City and are therefore more difficult to influence. • A culture of drinking increases risk-taking behaviour, particularly at night and on weekends. • Lack of diversity among the activities in the City at night, with too much focus on alcohol consumption.	• Enforcement approaches that target, rather than support, people who walk and cycle. • Lack of enforcement of road rules that support walking, cycling and motorcycling (e.g. cars and trucks blocking bicycle lanes). • Lack of safe public transport options for travel at night and on weekends. • Relatively high level of cheap on-street car parking in the central city encourages car travel and unnecessary traffic circulation, creating unfriendly and unsafe environment for vulnerable road users. • Lack of a laneway strategy to promote the north-south pedestrian movements, as major street corners become congested.	• The perception at an individual level that cycling is unsafe. • Some negative experiences while walking, cycling and motorcycling have discouraged these forms of travel.

	Physical Environment The built and natural environment (e.g. the design of streets) which influences people's attitudes and behaviour towards road safety.	**Social Environment** The local culture, the influence of family, friends and peers, which influences people's attitudes and behaviour towards road safety.	**Policy and Regulation** Legislative, regulatory or policy making actions by local, state or federal governments, which influence people's attitudes and behaviour towards road safety.	**Intrapersonal Factors** Individual's knowledge, attitudes, health, wealth and self-efficacy, which influence their attitude and behaviour towards road safety.
Opportunities	• The widths of many streets, particularly in the central city, provide opportunities for widening footpaths and retrofitting separated bicycle lanes. • The redevelopment of Flinders Street Station offers the potential to connect with the central city and Federation Square. • Provision of greater priority for pedestrians in the little streets (e.g. Flinders Lane, Little Collins Street) – possibly banning private cars in certain sections during lunch time peak periods (similarly to Little Collins Street at Swanston Street).	• The continued growth in people living in the central city supports the creation of places for people and not traffic – this means more people living in higher density development, closer to key destinations and attractions, reducing the need for car ownership and use. • The use of appropriately designed and delivered behavioural programs, strategically aligned to the plan, can address issues of road coexistence and car dooring.	• The increase in penalties for car dooring offences (the on-the-spot fine has increased from $141 to $352 and the maximum court penalty has increased from $423 to $1,408) presents an opportunity to better support people to cycle in the City, provided it is properly enforced. • The recognition of the role and needs of motorcyclists at the federal level (e.g. the State of the Cities Report 2012). • Encourage the use of protective clothing for motorcyclists. • Consideration of a change in the road rules to permit filtering for motorcycles. • The current development of a pedestrian plan for the City of Melbourne. • Victoria's Road Safety Strategy will provide opportunities to enhance the safety of vulnerable road users (refer to Action D5 on page 38).	• Strategically aligned, well designed and delivered behavioural and promotional programs can address many individual factors that contribute to poor levels of road safety.
Threats	• Insufficient footpath capacity, particularly near train stations, to cater for both current and future levels of pedestrian movement and activity. • The increasing population (both residential and daily) will exacerbate the demand placed on footpaths, bicycle infrastructure and public transport.	• The growing use of mobile phones and devices used by motorists and pedestrians.	• Not having a dedicated Road Safety Officer to lead the delivery of the plan. • Lack of cooperation and coordination with key external stakeholders to deliver cross-agency actions. • Lack of monitoring and evaluation of road safety measures.	• Negative media can increase the perception that the roads are unsafe for walking, cycling and motorcycling.

6. Framework for Supporting Road Safety

This chapter sets out the framework which has guided the selection of actions to support road safety in the City of Melbourne.

6.1 Prioritising the safety of pedestrians, cyclists and motorcyclists

The policy context for the City of Melbourne proposes a city where people take priority over the flow of traffic. This is a city where people enjoy a safe, comfortable and richly engaging urban environment - a city that is highly liveable, healthy, sustainable and prosperous.

However, the review of crash statistics revealed that much more needs to be done to create an urban environment that is socially and physically supportive of these policy goals. As a result, this plan focuses on the needs of pedestrians, cyclists and motorcyclists. This requires a fundamentally different approach to road safety, where the emphasis shifts from targeting vulnerable road users to supporting them instead.

SUPPORTING, NOT TARGETING PEDESTRIANS, CYCLISTS AND MOTORCYCLISTS

Efforts to improve road safety often make the mistake of placing the emphasis of responsibility on pedestrians, cyclists and motorcyclists - the most vulnerable road users. The outcome of this approach actually discourages people from walking, cycling and motorcycling. Targeting the most vulnerable road users creates the perception that walking, cycling and motorcycling are inherently dangerous, leading to a social stigmatisation (exacerbated by negative media coverage) that perpetuates within society to become a cultural norm. For example, cyclists running red lights is a commonly raised road safety concern however there is little evidence that it is a significant issue. Research by Monash University Accident Research Centre (2010)4 using an observational study conducted using a covert video camera to record cyclists at 10 sites across metropolitan Melbourne from October 2008 to April 2009 found that only 6.9% were non-compliant from a sample of 4,225 cyclists.

The policy context for road safety in the City of Melbourne clearly prioritises pedestrians, cyclists and motorcyclists, particularly within the central city as having a key role in the future prosperity, liveability and sustainability of the city. On this basis and taking into consideration the principles of the Safe System approach (discussed in section 3.2) vulnerable road users should be supported by the physical environment and the enforcement of road rules. This means a greater focus on enforcing the road rules that govern the behaviour of motorists.

6.2 Applying the Safe System approach

The Safe System approach was developed first in Sweden and the Netherlands and adopted in Australia in 2003. The basic premise of the approach is that road fatalities and serious injuries are unacceptable and that the road system can be designed to expect and accommodate human error.

The Safe System approach has three basic principles:

- People make mistakes.
- Human physical frailty.
- A ‘forgiving’ road transport system.

The Safe System approach aims to ensure that in the event of a crash, the impact energies remain below the threshold likely to produce either death or serious injury. This threshold will vary by crash scenario, depending upon the level of protection offered to the road users involved.

The Safe System approach has been adopted in the development of this plan and integrated with a behavioural change framework.

(Source: Safer Journeys Strategy, Ministry of Transport, NZ)

6.3 Integrating a behavioural change model

The integration of a behavioural change model with the Safe System approach provides a more contextual appreciation of the broader social/ cultural factors that influence road safety. In a behavioural change model, the factors that influence people's attitudes and behaviours are considered on a socio-ecological basis i.e. the 'user system', which comprises:

- **Intrapersonal factors** – specific to us as individuals (e.g. our awareness of risk taking).
- **Social factors** – specific to societies (e.g. influence of friends, family and colleagues).
- **Policy and regulation** – refers to the influence of road safety policy and road rules (e.g. speed limits).
- **Physical environment** – refers to both the built and natural environment (e.g. the design of the road environment).

The user system can either support safe or unsafe behaviours, depending on the combination of the aforementioned factors. Behavioural change models seek to identify and activate the factors supporting the desired behaviour(s).

These factors fall into two categories:

- **Motivating factors:** are intrinsic desires, connected to people's identities that attract them to certain behaviours. Motivations for cycling include being fit, looking good and the pleasure of cycling.
- **Enabling factors:** are changes to peoples' environments (both social and physical), and their self-efficacy that lowers the perceived risks of adopting.

This plan adopts a behavioural change model consisting of both motivating and enabling factors. For road users to adopt safe behaviours, both of these factors need to be active.

6.4 Embedding monitoring and evaluation

Many road safety plans, and the actions delivered from them, fall down because inadequate consideration has been given to monitoring/evaluation during their development. Monitoring and Evaluation Frameworks provide a foundation for the continuous tracking of progress, enhancement of the effectiveness of road safety actions and strong communication with internal/external stakeholders and the wider community.

THE ROLE OF EVALUATION

Evaluation plays a number of important roles in the creation of an effective road safety plan. Firstly, contemporary evaluation techniques can be used to clarify the underpinning logic of the plan and determine appropriate targets/indicators to be able to track the achievement of high-level plan outcomes. Secondly, learning-based evaluation frameworks have much to offer subsequent actions to ensure on-going Monitoring, Evaluation, Reporting and Improvement (MERI) systems, which involves embedding evaluation into the action from the outset.

This approach offers a solid evaluation of the planning process and some innovative tools to help capture expected/unexpected outcomes. It aims to foster continuous learning/adaptation throughout the plan cycle and provides a structure to tell the story of the plan.

THE APPROACH FOR THIS PLAN

The development of a Monitoring and Evaluation Framework will provide a foundation for:

- Monitoring the progress of actions delivered against the delivery program of the plan.
- Identifying and documenting the expected/unexpected benefits obtained.
- Capturing the learnings from the delivery of actions to improve their effectiveness.
- Documenting lessons learned and new opportunities identified along the way to build into the plan and inform future strategies.

The Monitoring and Evaluation Framework will support the effectiveness of the proposed road safety actions, and provide a foundation for strong cooperation/ coordination across Council, with key external agencies and the wider community.

Lygon Street, Carlton

7. Actions to Enhance the Safety of All Road Users

7.1 Introduction

This chapter presents the proposed actions to enhance the safety of all road users, with a particular focus on the vulnerable road users.

The actions are categorised as:

Category	Safe System Approach	Description
Environmental	Safer Roads	Actions related to the design of the physical environment of the road / street.
Behavioural	Safer Road Users	Actions related to the behaviour of pedestrians, cyclists, motorists and motorcyclists.
Regulation and Policy	Safer Speeds Safer Vehicles	Actions related to speed limits, road rules and policies that govern the use of roads.

The proposed actions align closely with the outcomes of the review of CrashStats, the consultation process and global best practice.

The actions are presented in a format which includes examples of national and international cities where they have been successfully implemented.

The actions are first presented by road user and focus on the creation of a safe physical environment (or Safer Roads in the Safe System approach) – a number of key road safety concepts proposed are also presented visually.

The behavioural (or Safe Road Users) actions are presented together as many proposed programs aim to address either all or a number of road users. Similarly, regulatory and policy actions are presented together as they also address several road users.

The proposed road safety actions aim to achieve the strategic objectives, targets, outcomes and the goal of the plan. The following guide is presented to clarify the basis for the selection of each action.

7.2 Actions to enhance the safety of pedestrians

DESIRED OUTCOME: *By 2017 Melbourne is a city for people where pedestrians are prioritised and supported by a safe, attractive and engaging urban environment.*

P1. REDUCE WAITING TIME AT CROSSINGS

• Provide priority for pedestrian movement, particularly at locations of footpath capacity constraint (e.g. King Street).

P2. INVESTIGATE PEDESTRIAN COUNTDOWNS

• Explore the use of pedestrian countdown devices at signalised intersections on high pedestrian routes.

P3. INTEGRATE TRAM STOPS WITH STREETS

• Investigate provision of tram stops that integrate with the footpath.

P4. PROVIDE MORE MID-BLOCK CROSSINGS

• Install in streets with centre-of-road parking.
• Install kerb build outs from footpaths where possible.
• Provide LED traffic signal displays at high risk locations.
• Reduce crossing distances at new pedestrian crossings.
• Provide zebra crossings on low traffic streets.

P5. PROVIDE WAYFINDING

• Provide directional signage to key public transport facilities and destinations across the city.
• Provide journey times to improve comfort.

P6. REMOVE FOOTPATH INTERRUPTIONS

• Continue footpaths across side streets at suitable locations and incorporate controlled crossing points.

P7. INCREASE FOOTPATH CAPACITY

• Increase capacity at locations and streets with high pedestrian demand (e.g. close to train stations).
• Investigate the removal of on-street parking at suitable locations to widen footpath.

P8. DESIGN STREETS FOR LOW SPEEDS

• Investigate the widening of footpaths to reduce traffic speeds.
• Investigate the use of landscaping and urban design treatments.

P9. UNDERTAKE WALKABILITY AUDITS

• Undertake a walkability audit of the central city to inform the development of a City of Melbourne's Walking Strategy (currently in development).

P10. UNDERTAKE ROAD SAFETY AUDITS

• Undertake annual road safety audits to address pedestrian safety issues.
• Focus initially on high pedestrian routes.

P11. SUPPORT THE SAFER CITY STRATEGY

• Advocate for more public transport services at night and on weekends.
• Continue providing Safe City Taxi Ranks.
• Support the actions in the Safer City Strategy.

Pedestrian road safety concepts

The following visuals illustrate some of the key road safety actions to provide a supportive physical environment for pedestrians.

Investigate shared space in ‘little’ streets, between Swanston and Elizabeth streets.

Remove footpath interruptions by raising the roadway for level access at suitable locations.

Investigate the provision of ‘parklets’ on ‘little’ streets, to increase space for pedestrians and create low speed environments.

Investigate the provision of mid-block signalised crossings, where appropriate.

7.3 Actions to enhance the safety of cyclists

DESIRED OUTCOME: *By 2017 Melbourne is a city for people where cycling is a safe, efficient and comfortable way to travel to, from and within the city, and enjoys a richly rewarding experience of the urban environment.*

C1. DELIVER THE BICYCLE PLAN 2012-2016

• Support the delivery of the bicycle plan.
• Deliver best practice bicycle infrastructure.

C2. PROVIDE A CYCLING ALTERNATIVE TO SOUTHBANK

• Explore on-road separated bicycle lanes to enable commuter traffic to by-pass Southbank, to mitigate pedestrian-cyclist conflict and safety concerns – this is consistent with the Southbank Structure Plan 2010.

C3. PROVIDE SEPARATION

• Explore design options to provide partially and fully separated bicycle lanes on high cycling routes.

C4. PROVIDE PRIORITY AT SQUEEZE POINTS

• Explore the use of advance starts for cyclists (together with trams) at signalised intersections.
• Explore the use of advisory treatments on centre of roadways to encourage cyclists to take the centre of the road.

C5. PROVIDE BIKE BOXES ON RIGHT TURNS

• Explore the use of dedicated safe waiting area, clearly marked for cyclists.

La Trobe Street, Melbourne

Groningen, The Netherlands

C6. PROVIDE WAYFINDING

• Develop an integrated plan to connect key destinations.
• Provide simple clear signage at appropriate height for cyclists to read.


New York City

C7. PROVIDE APPROPRIATE BICYCLE PARKING

• Provide a mix of on street and off-street bicycle parking.
• Investigate attaching bike hoops to existing street furniture.
• Explore the use of ‘parklets’ in ‘little’ streets.


Rathdowne Street, Carlton

C8. DELINEATE BICYCLE LANES

• Roll out the use of ‘vibra-line’ to replace painted bicycle lanes at high risk intersections.


Delft, The Netherlands

C9. INVESTIGATE FORMAL/INFORMAL CONTRA-FLOWS ON ONE-WAY STREETS

• Maximise opportunities for cyclists to avoid high traffic and circuitous routes.
• Explore contra-flow for some streets in the central city.


Copenhagen, Denmark

C10. INVESTIGATE BICYCLE LANE DESIGN TO ACCOMMODATE FUTURE DEMAND

• Investigate design options to accommodate future demand and different types of bicycle (e.g. cargo bicycles).
• Undertake road safety audits of all roads with three or more bicycle crashes in the last five years – include cyclist representatives in the audits.


New York, USA

C11. INVESTIGATE PROVISION OF BICYCLE LANES TO AT LEAST THE MINIMUM STANDARD WIDTH

• Where opportunities exist, reallocate road space to accommodate minimum standard width.

Cyclist road safety concepts

The following visuals illustrate some of the key road safety actions to provide a supportive physical environment for cyclists.

Investigate the provision of ‘sharrow’ bicycle symbols to encourage cyclists to take the middle of the road and avoid being ‘squeezed’ between tram stops and traffic.

Investigate the provision of innovative bicycle facilities to address car dooring crashes, using green surfaces, buffer zones and vibra-lines.

Investigate the provision of ‘parklets’ to support cyclists with on-street parking at key destinations.

7.4 Actions to enhance the safety of motorcyclists[1]

DESIRED OUTCOME: *By 2017 Melbourne is a city for people where motorcyclists feel welcomed and supported through safe, comfortable roads, and on-street and off-street parking.*

M1. DESIGN WITH MOTORCYCLES IN MIND

- Make the needs of motorcyclists a critical aspect of the design process of the road environment.
- Ensure that the City of Melbourne officers and external consultants are appropriately trained to design for the needs of motorcyclists.
- Explore with Yarra Trams options to address safety issues for motorcyclists (e.g. road surfaces adjacent to tram tracks).
- Consider the needs of motorcyclists when implementing traffic calming measures – explore urban design options above traffic engineering interventions (e.g. road narrowing rather than speed humps).
- Ensure that the safety requirements of motorcyclists are considered as part of the design process for the placement of all on-road obstructions, including kerbing, traffic islands, RRPM's (raised bars) & crash barriers.
- Ensure that the safety requirements of motorcyclists are considered as part of the design process for the installation of future bicycle lanes.
- Consider safety improvements for motorcyclists, when assessing road safety measures for pedestrians & cyclists.
- Explore opportunities to replace existing permanent slippery metal pit covers with skid-resistant concrete covers.
- Explore the use of skid-resistant line marking at appropriate locations.
- Explore with Yarra Trams the feasibility of providing skid-resistant tram tracks, particularly at intersections.
- Advocate for new vehicle regulations requiring the installation of rear vision cameras on vans, trucks, buses & trams.

London, UK

M2. AUDIT ROADS FOR MOTORCYCLE SAFETY

- Undertake road safety audits of all roads with three or more motorcycle crashes in the last five years – include motorcycle rider representatives in the audits.
- Explore the use of motorcycles fitted with instruments (e.g. cameras) to audit from the perspective of the rider.
- Identify the issues associated with lane merging over short distances, skid resistance, surface quality and the maintenance of line markings and signage.
- Prioritise the recommendations and develop a works program to be delivered by 2017.
- Develop a Motorcycle Blackspot app in collaboration with VicRoads and IMAP, to enable motorcyclists to report site - specific road safety issues.
- Explore the provision of an SMS notice service for road maintenance and construction updates.

Adelaide, South Australia

M3. PROVIDE APPROPRIATE MOTORCYCLE PARKING

- Explore opportunities to increase the level of motorcycle parking across the municipality.
- Develop Melbourne Planning Scheme amendments to –

a) Increase & strengthen the requirements to provide motorcycle parking in new developments (even when car parking is not required);
b) Ensure that motorcyclists' requirements are considered & provided for in new developments (e.g. appropriate parking facilities & safe access/egress to parking), explore motorcycle parking rates for new developments;
c) Require the provision of lockers for protective clothing, as part of the provision for motorcycle parking in new developments.

- Maximise the use of 'dead space' in off-street car parks for appropriate motorcycle parking.
- Advocate for the provision of motorcycle parking at rail stations to support 'park and ride'.
- Integrate motorcycle parking signage in wayfinding for off-street car parking.
- Maintain a database of motorcycle parking across the municipality – monitor utilisation with the aim of supporting future demand.

M4. DEVELOP A MOTORCYCLE PLAN, SIMILAR TO THE BICYCLE PLAN 2012/16.

M5. HOLD DISCUSSIONS WITH THE STATE GOVERNMENT AND COMMUNITY GROUPS, TO CONSIDER A CHANGE IN THE ROAD RULES TO PERMIT FILTERING BY MOTORCYCLES.

M6. ENCOURAGE MOTORCYCLING AS A SUSTAINABLE FORM OF TRANSPORT, WHICH ASSISTS IN REDUCING TRAFFIC CONGESTION.

- Work with the motorcycle groups to organise new activities to promote motorcycling in the City (e.g. ride to work day).
- Work with the Elizabeth St motorcycle precinct to promote motorcycle safety issues.
- Explore opportunities to promote road safety issues affecting motorcyclists at major events (e.g. Phillip Island Gran Prix).
- Encourage & promote the uptake of the existing defensive riding training programs & courses.

Rome, Italy

M7. CONSIDER THE SAFETY IMPLICATIONS OF ALLOWING BICYCLES & MOTORCYCLES ACCESS THROUGH FUTURE ROAD CLOSURES & ENTRY/TURN BANS.

M8. INVESTIGATE THE INTRODUCTION OF MOTORCYCLE BOXES, IN CONSULTATION WITH ALL ROAD USER GROUPS & RELEVANT STATE GOVERNMENT AGENCIES.

M9. INVESTIGATE THE INTRODUCTION OF EARLY START UP FOR MOTORCYCLES AT TRAFFIC SIGNALS.

M10. CONTINUE TO CONSULT MOTORCYCLE ADVOCACY GROUPS, VIA THE MOTORCYCLES IN THE CITY OF MELBOURNE COMMITTEE -

- Regarding any future proposals to ban/reduce parking on footpaths.
- Regarding safety and amenity issues.

M11. IDENTIFY BLACKSPOT MOTORCYCLE CRASH LOCATIONS, PARTICULARLY ALONG POPULAR MOTORCYCLE ROUTES, AND IMPLEMENT APPROPRIATE ROAD SAFETY TREATMENTS DESIGNED TO REDUCE BOTH THE INCIDENCE & SEVERITY OF CRASHES.

M12. DEVELOP BEHAVIOURAL PROGRAMS TO:

- Encourage drivers to conduct regular vehicle safety checks.
- Encourage drivers to check their blind spots for bicycles/motorcycles & to look/signal when turning.
- Raise driver awareness of motorcyclists when turning right & travelling straight through intersections.

[1] As outlined on page 45, the actions which were proposed as a result of the consultation with the representatives of the motorcycle groups on 22 May 2013 are highlighted red. The remaining actions were proposed as a result of the consultation undertaken prior to this meeting.

7.5 Regulatory and policy actions

DESIRED OUTCOME: *By 2017 Melbourne is a city for people where pedestrians, cyclists and motorcyclists are supported by regulations and policies that prioritise their safety needs on the roads across the municipality, during the day and at night.*

R1. ADVOCATE FOR BETTER DATA COLLECTION

• Advocate for the establishment of a national agency to coordinate the collection and collation of crash data.
• Work with academic bodies (e.g. MUARC) to develop crash data research and analysis.

R2. ADVOCATE FOR SAFER VEHICLES

• Advocate for blind spot monitoring equipment (e.g. mirrors) to be installed on trucks to mitigate the danger of blind spots for cyclists.
• Raise awareness of the presence of low noise-producing electric cars.
• Advocate for messages on car doors or glass to mitigate car dooring.

R3. ADVOCATE FOR INCREASED ENFORCEMENT OF THE ROAD RULES TO SUPPORT VULNERABLE ROAD USERS

• Work with the Victoria Police with a view to increasing the enforcement of speeding, running red lights, failing to give way to pedestrians, cyclists and motorcyclists, car dooring, etc.
• Support Operation Halo.

R4. ADVOCATE FOR POSITIVE ENFORCEMENT OF THE ROAD RULES GOVERNING VULNERABLE ROAD USERS

• Work with the Victoria Police to develop positive enforcement methods of the Road Rules governing the behaviour of pedestrians, cyclists and motorcyclists (e.g. reward appropriate behaviour with praise, small gifts etc.).

R5. REGULATE AND ENFORCE FOOTPATH CLUTTER

• Review the regulations to reduce footpath clutter, including the loss of visibility for road users.
• Continue to audit high-use pedestrian streets to reduce clutter.
• Restrict ad-hoc advertising on footpaths.
• Provide appropriate parking for bicycles.
• Appropriately manage the footpath space used by street performers.

R6. ENHANCE THE USE OF SKID RESISTANT METAL PLATES FOR ROAD WORKS

• Investigate the feasibility of mandating the use of skid-resistant metal plate covers at all road works sites.

R7. ENHANCE THE PROVISIONS FOR VULNERABLE ROAD USERS DURING ROAD/CONSTRUCTION WORKS

• Ensure that the safety of pedestrians, cyclists and motorcyclists is considered when approving traffic management plans for road works and building construction works.
• Undertake regular inspections and audits, and enhance enforcement at the road-works sites, to ensure that any safety issues are promptly addressed.

R8. ENHANCE THE SAFETY OF DRIVERS AND PASSENGERS

• Identify locations where road safety can be improved through the continuous review of crash data and the undertaking of regular road safety audits.
• Work closely with VicRoads and Victoria Police to design and implement appropriate road safety treatments, in order to reduce both the incidence and the severity of crashes.
• Apply for funding through the Victorian Government's Blackspot, Blacklength and other road safety programs, to implement treatments at the identified locations.

R9. ADVOCATE FOR DRIVING LICENCE CURRICULUM CHANGES, TO FOCUS ON VULNERABLE ROAD USERS

• Advocate for a greater focus on the needs of pedestrians, cyclists and motorcyclists in the driving licence curriculum.

R10. EXPLORE ALLOWING MOTORCYCLES TO USE BUS LANES, WHERE APPROPRIATE

• The Victorian Government is currently developing a policy on allowing motorcycles to use bus lanes, which is expected to be available for public consultation in 2013.
• The City of Melbourne will contribute to and provide input to the development of this policy.

R11. INVESTIGATE RESTRICTING MOTOR VEHICLE ACCESS IN AREAS OF HIGH PEDESTRIAN AND CYCLIST ACTIVITY

• Investigate restricting or reducing the movement of motor-vehicles in areas and streets with high pedestrian/cycling activity.

R12. EXPAND 40KM/H SPEED LIMIT

• Monitor the outcomes of the 40km/h speed limit in the Hoddle Grid.
• Explore the expansion of the 40 km/h speed limit to include the Queen Victoria Market environs.
• Advocate for the review of the current VicRoads' guidelines to allow 40km/h speed limits to be installed in any area which exhibits high pedestrian volumes (including areas close to colleges, hospitals, sporting facilities, parklands, high density commercial developments, residential streets, rail stations and streets with tram or bus stops).

R13. ENHANCE THE PROVISIONS FOR VULNERABLE ROAD USERS DURING MAJOR EVENTS

• Provided advance notice of alternative bicycle routes in local and social media.

R14. REVIEW PLANNING REQUIREMENTS TO ASSIST VULNERABLE ROAD USERS

• Investigate the strengthening of the requirement for developers to provide for improved pedestrian links, through the planning process.

R15. CONSIDER IMPACTS ON PEDESTRIAN AND CYCLIST CAPACITY

Consider the impact on pedestrian and cycling capacity as part of the design of all traffic management and streetscape projects, to ensure that both pedestrian and cyclist:
• Waiting times are minimised.
• Capacity is enhanced.
• Congestion is reduced.
• Safety is improved.

7.6 Behavioural programs

DESIRED OUTCOME: *By 2017 Melbourne is a city for people where walking, cycling and motorcycling are socially supported, with greater levels of respect among all road users.*

New York City Taxis, USA

New York City, USA

Think!, London

TAC, Australia spokes TAC

B1. IMPROVE THE RELATIONSHIP AMONG ROAD USERS

City of Melbourne to consider the development of programs to achieve the following:
- Design behavioural programs using a behaviour change framework.
- Increase the awareness, care and attention by motorists towards vulnerable road users.
- Reduce driver distraction and car dooring.
- Reduce the incidence of pedestrians being injured when crossing roads while distracted by conversation, mobiles and headphones.
- Encourage motorcyclists to wear protective clothing, in order to reduce the injury severity of crashes.
- Improve cyclists', motorcyclists' and drivers' awareness of road safety issues (e.g. awareness of blind spots on trucks).
- Increase the level of individual responsibility for road safety among all users.

Yarra Trams, Melbourne

B2. IMPROVE CITY VISITOR AWARENESS OF LOCAL STREET OPERATIONS

City of Melbourne to consider the development of programs to achieve the following:
- Improve the level of awareness among visitors to the City of the road rules and behavioural expectations in less familiar street environments.
- Reduce the potential for visitors to have negative experience resulting from being fined or as a result of conflict with other road users.

Melbourne Street Smarts

B3. ASSIST ROAD USERS TO ADAPT TO NEW STREET ENVIRONMENTS

City of Melbourne to consider the development of programs to achieve the following:
- Mitigate the potential for safety issues when road users are presented with new and unfamiliar street environments.
- Support road users' enjoyment of the City by increasing their familiarity with the street environment.

8. Delivering the Plan

8.1 Collaboration and coordination

The plan requires collaboration across a range of key stakeholders, both internally and externally. In addition, the plan should be championed and supported across Council.

Always design a thing by considering it in its next larger context - a chair in a room, a room in a house, a house in an environment, an environment in a city plan.

Eliel Saarinen

Road safety requires an interdisciplinary approach that considers the needs of pedestrians, cyclists and motorcyclists within the context of the development of the city and the policies that guide the growth/design of the urban environment.

PROPOSED ACTIONS

D1. FORM A ROAD SAFETY COMMITTEE

- The committee will oversee the delivery of the plan.
- Include a cross-section of officers with the responsibility for delivering the actions in the plan (i.e. decision-makers).
- Include representatives from the key agencies and advocacy groups (e.g. VicRoads, Victoria Police, PTV, RSAGIM, Yarra Trams and TAC).
- The committee should meet at least quarterly to review the progress of the delivery of the plan.
- The committee could be chaired by a Councillor, who would also be the principal champion of the plan.

D2. APPOINT A ROAD SAFETY OFFICER

Appoint a full or part-time officer to lead the delivery of the plan on a day-to-day basis, to:

- Act as the main contact point for internal and external road safety related queries.
- Monitor and evaluate the impact of the actions delivered.
- Report quarterly to the Road Safety Committee.
- Represent the city on the Inner Melbourne Action Plan (IMAP) Committee.

D3. WORK CLOSELY WITH IMAP PARTNERS

- Use IMAP as a forum for sharing issues, ideas and innovation on road safety, and for delivery of important road safety measures to VicRoads.
- Advocate for an IMAP wide approach to appropriate road safety issues and measures.

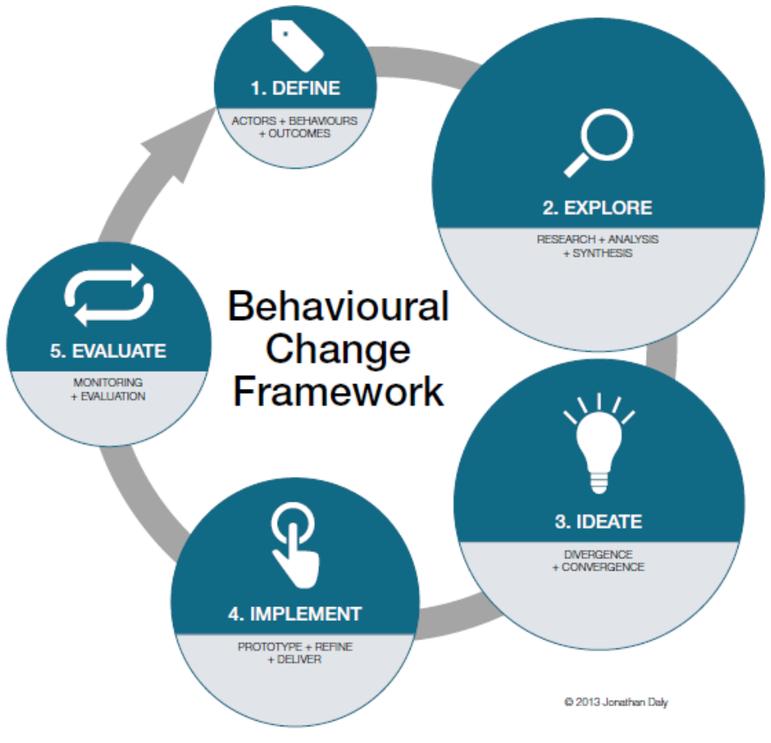
D4. DESIGN OF BEHAVIOURAL PROGRAMS

- Use the Behavioural Change Framework to assist in the design of the programs, ensuring they are contextual and strategically aligned to the plan.
- Integrate and apply a monitoring and evaluation plan at the outset.

D5. SUPPORT VICTORIA'S ROAD SAFETY STRATEGY

Work closely with the Stage Government to support the delivery of the key strategies, including:

- Address the issues of drink driving, drug driving, speeding, distraction and fatigue.
- Provide both pedestrians and cyclists with improved infrastructure and safer vehicle speeds, to reduce their risk and support the uptake of sustainable travel modes.
- Incorporate safe system principles into the design of roads and roadsides and the setting of speed limits and develop innovative infrastructure solutions.
- Continue to improve the safety of young drivers through stronger enforcement, incentives and countermeasures that target the road safety hazards that put young drivers at particular risk.
- Support the safe mobility of all older people through information to support safe travel choices and by improving infrastructure design for older drivers and pedestrians.
- Make greater use of motorcycle safety technology and protective clothing. Better prepare new riders to be safe and target enforcement of unsafe road use among all motorists.
- Introduce initiatives to encourage everybody to share the road safely.
- Increase the availability of vehicle safety features in the Victorian car market and encourage the uptake of these features.
- Support the public and private sectors to proactively develop systems and policies that will improve the safety of their employees and other people on the roads.



8.2 Designing behavioural programs

It is recommended that behavioural change programs follow a rigorous design process, in the same way that infrastructure does. The following framework presents a process for designing behavioural programs, which is non-linear in nature, as presented in the figure opposite. Depending on the nature of the behavioural issue, this design process could be completed relatively quickly or may entail more extensive time spent in the exploration/research phase.

1. Define

Clearly defined the following at the outset of the program design:

- Whose behaviour is needed to change from the intervention?
- What explicit behaviours are needed to change and which ones should replace them?
- What overall key outcomes the program should deliver?

2. Explore

The next step requires:

- Research, to understand the socio-ecological context in which the program will be delivered (usually involving fieldwork).
- Analysis and organisation of the qualitative/quantitative data and information collected.
- Synthesis of the analysed data to extract key patterns, themes and insights.
- From this process, the key enabling/motivating factors can be identified and the theory of change created.

3. Ideate

This step has two key stages:

- Diverge to identify as many ideas as possible for activities that will activate the identified enablers/motivators, by gathering inspiration from existing literature/through brainstorming with a group of key stakeholders.
- Converge through a process of shortlisting/evaluating the ideas against appropriate criteria. At the end of this process, the final set of activities can be integrated into a cohesive program that is doable, effective and testable. This program should be based on a set of key design principles that respond to the key enablers/motivators and appropriate behavioural change models.

4. Implement

This step is iterative in nature and starts with "Rapid Prototyping" – where the focus is on quickly/cheaply testing the proposed activities to identity potential design and implementation problems. Once the program has been tested and refined, it is ready to roll out.

5. Evaluate

The final step, which should occur before the program is fully rolled out, is to determine the key performance indicators for the program overall, and the activities that make up the program. Once established, appropriate data collection methods and responsibilities could be assigned. Monitoring should be consistent/continuous from the moment implementation begins. Finally, reporting formats should be agreed.

8.3 Implementation plan

This section provides an implementation plan for the recommended actions, over the next five years. The stars (*) indicate years during which the actions would be undertaken. The actions on pages 39 to 41 have been proposed prior to the meeting of the Future Melbourne Committee in April 2013[1], and the actions on page 42 (highlighted red) have been proposed following the meeting.

Abbreviations

CoM	City of Melbourne	**MFB**	Melbourne Fire Brigade
PTV	Public Transport Victoria	**AV**	Ambulance Victoria
MAG	Motorcycle Advocacy Groups		
BNV	Bicycle Networks Victoria		
Police	Victoria Police		

Proposed Actions	Priority	2013	2014	2015	2016	2017	Lead	Main Partner(s)	Supporting Partner(s)	Performance Indicators
P1. REDUCE WAITING TIME AT CROSSINGS	High	*	*	*	*	*	VicRoads	CoM		Number of signalised intersections/crossing adjusted.
P2. INVESTIGATE PEDESTRIAN COUNTDOWNS	Low		*				CoM	VicRoads		Investigations completed.
P3. INTEGRATE TRAM STOPS WITH STREETS	Low			*			Yarra Trams	CoM		Investigations completed.
P4. PROVIDE MORE MID-BLOCK CROSSINGS	Medium	*	*	*	*	*	CoM	VicRoads		Number of mid-block crossings installed.
P5. PROVIDE WAYFINDING	High		*				CoM	VicRoads		Development of a Wayfinding Strategy and proportion of strategy delivered.
P6. REMOVE FOOTPATH INTERRUPTIONS	Medium			*			CoM	VicRoads		Number of footpath interruptions removed.
P7. INCREASE FOOTPATH CAPACITY	High	*	*	*	*	*	CoM	VicRoads		Number of footpath widening projects delivered.
P8. DESIGN STREETS FOR LOW SPEEDS	High	*	*	*	*	*	CoM	VicRoads		Number of streetscape projects delivered where traffic speed has been significantly reduced.
P9. UNDERTAKE WALKABILITY AUDITS	High	*		*		*	CoM	VicRoads	Police	Number of streets audited.
P10. UNDERTAKE ROAD SAFETY AUDITS	High	*		*		*	CoM	VicRoads	Police	Number of streets audited.
P11. SUPPORT THE SAFER CITY STRATEGY	High	*	*	*	*	*	CoM	PTV	Police	Number of joint projects delivered.
C1. DELIVER THE BICYCLE PLAN 2012-2016	High	*	*	*	*	*	CoM	VicRoads	IMAP, BNV	Number of cycling safety actions completed.
C2. PROVIDE A CYCLING ALTERNATIVE TO SOUTHBANK	Medium			*			VicRoads	CoM	Advocacy groups.	Completion of the new route.
C3. PROVIDE SEPARATION	Medium	*	*	*	*	*	CoM	VicRoads	BNV	Number of separated bicycle routes provided.
C4. PROVIDE PRIORITY AT SQUEEZE POINTS	Medium		*				CoM	VicRoads	Yarra Trams	Number of squeeze points addressed.
C5. PROVIDE BIKE BOXES ON RIGHT TURNS	Low		*				CoM	VicRoads		Number of intersections with right turn provision for cyclists.
C6. PROVIDE WAYFINDING	High		*				CoM	VicRoads	BNV	Development of Wayfinding Strategy and proportion of strategy delivered.
C7. PROVIDE APPROPRIATE BICYCLE PARKING	Medium	*	*	*	*	*	CoM	VicRoads	BNV	Number of new bicycle parking rails installed on-street and off-street.
C8. DELINEATE BICYCLE LANES	Medium	*	*	*	*	*	CoM	VicRoads	BNV	Number of non-separated bicycle lanes treated with vibra-line delineation.
C9. INVESTIGATE FORMAL/INFORMAL CONTRA-FLOWS ON ONE-WAY STREETS	Low		*				CoM	VicRoads	BNV	Number of contra-flow lanes investigated/delivered.
C10. INVESTIGATE BICYCLE LANE DESIGN TO ACCOMMODATE FUTURE DEMAND	Medium	*	*	*	*	*	CoM	VicRoads	BNV	Completion of research.
C11. INVESTIGATE PROVISION OF BICYCLE LANES TO AT LEAST THE MINIMUM STANDARD WIDTH	Medium	*	*	*	*	*	CoM	VicRoads	BNV	Proportion of bicycle lanes provided to at least the minimum standard width.

[1] Except for the additional actions involving motorcycles, which were proposed as a result of the consultation with the motorcycle representatives on 22 May 2013.

Proposed Actions	Priority	2013	2014	2015	2016	2017	Lead	Main Partner(s)	Supporting Partner(s)	Performance Indicators
M1. DESIGN WITH MOTORCYCLES IN MIND	High	*	*	*	*	*	CoM	MAG	VicRoads	Number of officers completing training; number of tender briefs specifying specialist skills in designing for motorcycles; no. of new developments with motorcycle facilities.
M2. AUDIT ROADS FOR MOTORCYCLE SAFETY	High	*		*		*	CoM	MAG	VicRoads	Number of audits completed.
M3. PROVIDE APPROPRIATE MOTORCYCLE PARKING	Medium	*	*	*	*	*	CoM	Car park operators	MAG	Number of new on-street and off-street motorcycle parking spaces.
M4. DEVELOP A MOTORCYCLE PLAN, SIMILAR TO THE BICYCLE PLAN 2012/16	Medium		*	*			CoM	MAG	All stakeholders	Motorcycle plan developed.
M5. HOLD DISCUSSIONS WITH THE STATE GOVERNMENT AND COMMUNITY GROUPS, TO CONSIDER A CHANGE IN THE ROAD RULES TO PERMIT FILTERING BY MOTORCYCLES	High	*	*				CoM	MAG	All stakeholders	Discussions held; Road Rules changed.
M6. ENCOURAGE MOTORCYCLING AS A SUSTAINABLE FORM OF TRANSPORT, WHICH ASSISTS IN REDUCING TRAFFIC CONGESTION	Medium	*	*	*	*	*	CoM	MAG	All stakeholders	Activities arranged; promotions undertaken; defensive riding courses promoted.
M7. CONSIDER THE SAFETY IMPLICATIONS OF ALLOWING BICYCLES & MOTORCYCLES ACCESS THROUGH FUTURE ROAD CLOSURES & ENTRY/TURN BANS	Low	*	*	*	*	*	CoM	MAG, BNV	All stakeholders	Safety implications considered.
M8. INVESTIGATE THE INTRODUCTION OF MOTORCYCLE BOXES, IN CONSULTATION WITH ALL ROAD USER GROUPS & RELEVANT STATE GOVERNMENT AGENCIES	Medium		*	*			CoM	MAG, VicRoads	All stakeholders	Investigations undertaken.
M9. INVESTIGATE THE INTRODUCTION OF EARLY START UP FOR MOTORCYCLES AT TRAFFIC SIGNALS	Medium		*	*			CoM	MAG, VicRoads	All stakeholders	Investigations undertaken.
M10. CONTINUE TO CONSULT MOTORCYCLE ADVOCACY GROUPS, VIA THE MOTORCYCLES IN THE CITY OF MELBOURNE COMMITTEE	Medium		*	*			CoM	MAG		Regular meetings held.
M11. IDENTIFY BLACKSPOT MOTORCYCLE CRASH LOCATIONS, PARTICULARLY ALONG POPULAR MOTORCYCLE ROUTES, AND IMPLEMENT APPROPRIATE ROAD SAFETY TREATMENTS DESIGNED TO REDUCE BOTH THE INCIDENCE & SEVERITY OF CRASHES	High	*	*	*	*	*	CoM	MAG	VicRoads	Blackspot crash locations identified; treatments implemented.
M12. DEVELOP BEHAVIOURAL PROGRAMS TARGETING DRIVERS, TO ENHANCE THE SAFETY OF MOTORCYCLISTS	Medium		*	*	*	*	CoM	MAG	All stakeholders	Programs developed and implemented.
R1. ADVOCATE FOR BETTER DATA COLLECTION	Medium	*	*	*	*	*	CoM	Police	VicRoads	Changes in the approach to data collection.
R2. ADVOCATE FOR SAFER VEHICLES	Medium	*	*	*	*	*	CoM	Police	VicRoads	Regulatory changes implemented.
R3. ADVOCATE FOR INCREASED ENFORCEMENT OF THE ROAD RULES TO SUPPORT VULNERABLE ROAD USERS	High	*	*	*	*	*	Police	CoM		Change in perception among pedestrians, cyclists and motorcyclists; No. of infringements issued for relevant offences.
R4. ADVOCATE FOR POSITIVE ENFORCEMENT OF THE ROAD RULES GOVERNING VULNERABLE ROAD USERS	High	*	*	*	*	*	Police	CoM		Change in perception among pedestrians, cyclists and motorcyclists; No. of positive interventions delivered by Police.

Proposed Actions	Priority	2013	2014	2015	2016	2017	Lead	Main Partner(s)	Supporting Partner(s)	Performance Indicators
R5. REGULATE AND ENFORCE FOOTPATH CLUTTER	High	*	*	*	*	*	Police	CoM		Number of complaints received relating to footpath clutter and number of fines issued for non-compliance.
R6. ENHANCE THE USE OF SKID RESISTANT METAL PLATES FOR ROAD WORKS	High	*	*	*	*	*	CoM	VicRoads	Contractors	Number of road construction projects where skid resistant plates were used.
R7. ENHANCE THE PROVISIONS FOR VULNERABLE ROAD USERS DURING ROAD/CONSTRUCTION WORKS	High	*	*	*	*	*	CoM	VicRoads	Contractors	Number of road construction projects where improved provision for vulnerable road users was provided.
R8. ENHANCE THE SAFETY OF DRIVERS AND PASSENGERS	High	*	*	*	*	*	CoM	VicRoads	Police	Number of treatments implemented at hazardous intersections.
R9. ADVOCATE FOR DRIVING LICENCE CURRICULUM CHANGES, TO FOCUS ON VULNERABLE ROAD USERS	Medium	*	*				CoM	Police		Regulatory changes implemented.
R10. EXPLORE ALLOWING MOTORCYCLES TO USE BUS LANES, WHERE APPROPRIATE	Low		*				CoM	VicRoads	Police	Investigations completed.
R11. INVESTIGATE RESTRICTING MOTOR VEHICLE ACCESS IN AREAS OF HIGH PEDESTRIAN AND CYCLIST ACTIVITY	High	*	*	*	*	*	CoM	VicRoads	Police	Number of streets/areas investigated.
R12. EXPAND 40KM/H SPEED LIMIT	High	*	*	*	*	*	CoM	VicRoads	Police	Number of streets/areas where the 40km/h speed limit has been introduced.
R13. ENHANCE THE PROVISIONS FOR VULNERABLE ROAD USERS DURING MAJOR EVENTS	High	*	*	*	*	*	CoM	Police	Event organisers.	Number of events with event management plans that consider vulnerable road users.
R14. REVIEW PLANNING REQUIREMENTS TO ASSIST VULNERABLE ROAD USERS	Medium	*	*	*	*	*	CoM	Developers		Amendments to the Melbourne Planning Scheme undertaken.
R15. CONSIDER IMPACTS ON PEDESTRIAN AND CYCLIST CAPACITY	Medium	*	*	*	*	*	CoM	VicRoads		Number of projects undertaken where pedestrian and bicycle capacity has been enhanced.
D1. FORM A ROAD SAFETY COMMITTEE	High	*					CoM	All stakeholders.		Committee formed.
D2. APPOINT A ROAD SAFETY OFFICER	High	*					CoM			Officer appointed.
D3. WORK CLOSELY WITH IMAP PARTNERS	High	*	*	*	*	*	CoM	IMAP		No. of projects delivered through/supported by IMAP.
D4. DESIGN OF BEHAVIOURAL PROGRAMS	High	*	*	*	*	*	CoM			Number of programs designed using a behavioural change framework.
D5. SUPPORT VICTORIA'S ROAD SAFETY STRATEGY	High	*	*	*	*	*	VicRoads	CoM		Number of actions and strategies supported/undertaken.
B1. IMPROVE THE RELATIONSHIP AMONG ROAD USERS	High	*	*	*	*	*	CoM	Police, VicRoads	All key Stakeholders	Change in public perception; No. of car dooring crashes; No. of road rage complaints to Police; No. of pedestrians injured where distraction was a contributory factor; No. of crashes where a cyclist was caught in a truck drivers blind spot; No. of crashes where a motorcyclist was not wearing protective clothing.
B2. IMPROVE CITY VISITOR AWARENESS OF LOCAL STREET OPERATIONS	Low	*	*	*	*	*	CoM	Police	Tourism Agencies	Change in public perception; No. of visitors injured in crashes.
B3. ASSIST ROAD USERS TO ADAPT TO NEW STREET ENVIRONMENTS	Low	*	*	*	*	*	CoM	VicRoads	Yarra Trams	Indicators would be project specific.

The actions on this page have been proposed following the meeting of the Future Melbourne Committee in April 2013.

Proposed Actions	Priority	2013	2014	2015	2016	2017	Lead	Main Partner(s)	Supporting Partner(s)	Performance Indicators
A1. CONSIDER THE IMPACT OF FUTURE TRAFFIC MANAGEMENT PROPOSALS THAT MAY REDUCE MOTORVEHICLE CAPACITY ON RESPONSE TIMES OF EMERGENCY VEHICLES	High	*	*	*	*	*	CoM	Police, AV, MFB		Impacts of proposals considered.
A2. WORK WITH THE DISABILITY ADVOCACY GROUPS AND THE RELEVANT AGENCIES TO DEVELOP APPROPRIATE TREATMENTS, PROGRAMS, STRATEGIES AND POLICIES, IN ORDER TO ADDRESS THE SAFETY, MOBILITY AND AMENITY NEEDS OF THE PHYSICALLY AND INTELLECTUALLY DISABLED PEDESTRIANS	High	*	*	*	*	*	CoM	Disability advocacy group.	Relevant agencies	Number of treatments, programs, strategies and policies developed.
A3. WORK WITH THE STATE GOVERNMENT TO SUPPORT, PROMOTE AND DEVELOP JOINT ROAD SAFETY CAMPAIGNS AND PROGRAMS, TARGETING THE BEHAVIOURS THAT CONTRIBUTE TO THE CAUSES OF THE MOST COMMON TYPES OF CAR CRASHES.	High	*	*	*	*	*	VicRoads	CoM	RACV, Relevant agencies.	Campaigns developed.
A4. SUPPORT THE YARRA TRAMS' BEWARE THE RHINO CAMPAIGN.	High	*	*	*			Yarra Trams	CoM		Campaign supported.
A5. WORK WITH YARRA TRAMS AND PTV TO IDENTIFY THE CAUSES OF TRAM CRASHES AND IMPLEMENT APPROPRIATE ROAD SAFETY TREATMENTS, DESIGNED TO REDUCE BOTH THE INCIDENCE AND SEVERITY OF CRASHES.	High	*	*	*	*	*	Yarra Trams	PTV, CoM		Causes of crashes identified; treatments implemented.
A6. ADVOCATE TO THE PTV AND TO OTHER RELEVANT AGENCIES AND PRIVATE BUS COMPANIES, TO PROVIDE APPROPRIATE INFORMATION AND TRAINING TO BUS DRIVERS, TO LOOK OUT FOR CYCLISTS AND MOTORCYCLISTS WHEN CHANGING LANES AND PULLING INTO/OUT OF BUS STOPS.	Medium	*	*	*	*		PTV	CoM	Bus companies.	Training & information provided to drivers.
A7. WORK WITH THE PTV TO EXPLORE EXISTING TECHNOLOGIES WITH A VIEW TO INSTALLING BLIND SPOT MONITORING EQUIPMENT ON BUSES, TO MITIGATE THE DANGER OF BLIND SPOTS FOR CYCLISTS/MOTORCYCLISTS.	Medium	*	*	*	*	*	PTV	CoM	Bus companies.	Technology explored & installed.
A8. CONSIDER THE DEVELOPMENT OF BEHAVIOURAL PROGRAMS TO ENCOURAGE CYCLISTS TO GIVE WAY TO BUSES WHEN THEY ARE LEAVING BUS STOPS.	Medium	*	*	*	*	*	CoM	BNV	PTV	Programs developed.
A9. ADVOCATE TO THE COMMERCIAL TRANSPORT INDUSTRY AND TO THE RELEVANT TRANSPORT AGENCIES, TO INSTALL APPROPRIATE SAFETY EQUIPMENT ON TRUCKS IN ORDER TO ADDRESS THE CAUSES OF TRUCK CRASHES.	Medium	*	*	*	*	*	CoM	Victorian Transport Association.	Commercial Transport Industry.	Safety equipment installed.
A10. CONSIDER THE DEVELOPMENT OF EDUCATION CAMPAIGNS, TARGETING BEHAVIOURS THAT CONTRIBUTE TO THE CAUSES OF TRUCK CRASHES.	Medium	*	*	*	*	*	CoM	Commercial Transport Industry.	All key Stakeholders	Campaigns developed.
A11. ADVOCATE TO THE TAXI INDUSTRY AND TO RELEVANT AGENCIES, TO INSTALL APPROPRIATE SAFETY EQUIPMENT ON TAXIS AND DEVELOP EDUCATION CAMPAIGNS, IN ORDER TO ADDRESS THE CAUSES OF TAXI CRASHES.	Medium	*	*	*	*	*	CoM	Taxi industry.		Safety equipment installed.

9. Monitoring and Evaluation

This chapter presents a framework for the continuous and consistent monitoring, evaluation and reporting of the measures proposed in the plan.

Monitoring and evaluation should be embedded in the design and application of road safety actions. More rigorous and consistent monitoring and evaluation of road safety actions can improve the effectiveness of existing projects and support the selection of more effective new actions. This can be achieved by enhancing:

- Monitoring and evaluation for crashes involving pedestrians, cyclists and motorcyclists (including unreported crashes).
- Monitoring and evaluation of road safety actions delivered from the previous road safety plan.
- Collaboration among municipalities in Inner Melbourne to better coordinate monitoring and evaluation of road safety actions with a broader application and impact.
- Data on travel patterns and behaviour, particularly for motorcyclists.
- Knowledge and application of exposure rates for pedestrians, cyclists and motorcyclists.

9.1 Monitoring and data collection

This section presents a range of key sources of information on crash data and data collection methods for monitoring the progress of the plan.

EXISTING CRASH DATA SOURCES

The following sources are critical for monitoring the progress of the plan and road safety actions:

CrashStats

Notwithstanding its acknowledged limitations (see section 2.8.1), VicRoads' CrashStats continues to provide the most comprehensive database of crashes in the State. As such, CrashStats provides the main source of crash data for all modes of travel.

Hospital Records

Hospital records are an important source of supplementary data to CrashStats as they help to address (to some degree) the relatively high proportion of unreported crashes among pedestrians, cyclists and motorcyclists.

The Victorian Integrated Survey of Travel and Activity (VISTA)

VISTA is an ongoing survey of travel behaviour and patterns across metropolitan Melbourne. The survey employs the use of travel diaries completed by randomly selected households for a single day in the year. To date the surveys have been carried out in 2007-2008 and 2009-2010. Surveys are currently being carried out for 2012-2016. The data provides useful information that can be used to compare CrashStats results with changing travel patterns and behaviour.

Census data

The Australian Census takes place every five years and records information on transport modes and destination for the journey to work. The last Census took place in 2011 and this data provides critical information on local demographics, including population, age, and travel to work.

MONITORING AND DATA COLLECTION METHODS

The following methods can be used to help contextualise existing sources of crash data, and can be applied to specific road safety actions to monitor the progress of projects and programs arising from the plan. A central database should be created for the systematic storage of data and information relating to the plan.

Observational surveys

For specific roads/streets or hotspots (e.g. where a specific behavioural issue is commonplace) observational surveys should be undertaken to collate both quantitative and qualitative data on the road safety issue. The surveys should quantify behaviour(s) and attempt to contextualise these observations by examining the impact of the physical environment, and interviewing the relevant road users.

Media monitoring

Some basic media monitoring of references to key words such as "road safety" and the negative/positive sentiments linked to the term will provide information on the positions taken by opinion leaders in the wider community. This information is useful in monitoring the public's perception of specific road safety actions that have been delivered and/or general levels of road safety.

Most Significant Change (MSC)

MSC is a form of participatory monitoring and evaluation. It is participatory because project stakeholders are involved both in deciding the sorts of change to be recorded and in analysing the data. It is a form of monitoring because it can occur throughout the program cycle and provides information to help manage the program. It contributes to evaluation because it provides data on impact and outcomes that can be used to help assess the performance of the program as a whole.

Unlike conventional approaches to monitoring, this approach does not employ quantitative indicators and, because of this, is sometimes referred to as 'monitoring without indicators'. MSC is an effective tool for monitoring and evaluating the impact of behavioural programs.

Little Collins Street, Melbourne

9.2 Evaluation

Evaluation should take place at the end of a project, while monitoring should occurs during its delivery (if you do not monitor, you cannot evaluate).

Three levels of evaluation are proposed:

self-evaluation

Self-evaluation is proposed for small/short projects (e.g. some behavioural programs) that are delivered over a short timeframe (e.g. one day - one week).

participatory evaluation

This is a form of internal evaluation. The intention is to involve as many people with a direct stake in the work as possible. This may mean project staff and beneficiaries working together on the evaluation. If an outsider is called in, it is to act as a facilitator of the process, not an evaluator. This form of evaluation is recommended where projects are undertaken in collaboration with other agencies.

external evaluation

This form of evaluation is recommended for determining the success of the program-level outcomes i.e. the main goals of the plan. This evaluation should be undertaken independently.

ANNUAL PROGRAM REFLECTION WORKSHOP

One of the key failings of many monitoring and evaluation systems is that the outcomes do not get used to inform decision making. To ensure that learnings from the monitoring/evaluation are reflected on and actioned, a reflection workshop is critical. The key purpose of the workshop is to enable a review of the plan's performance/impact, and to identify key findings and learnings to inform ongoing/future work and ways of working. Annual reflection and reporting would be informed by the findings from monitoring/evaluation processes undertaken during the financial year.

During this annual reflection workshop, the extent to which outcomes have been met will be examined (and if not, why not), and the Road Safety Committee will reflect on the appropriateness of the targets and actions themselves. This will be done by examining the discrepancies both between expectations and achievements, and between expectations and emergent outcomes. A set of key reflection questions may also be used to examine the achievements.

9.3 Reporting

There will be requirements to report against the plan to a number of different internal/external stakeholders at regular intervals throughout the five year timeframe. On this basis it is vital to adopt a reporting system that is able to satisfy a number of these obligations simultaneously and most importantly, to support continuous learning/ adaptation of projects and programs throughout the life of the plan. The following system is recommended as a way of systematically capturing information relevant to a diverse range of stakeholders for each project.

PROJECT-LEVEL REPORTING

For each road safety action (environmental, behavioural, regulatory and policy) an end of project performance story report should be produced (approximately 10 pages) covering:
• Background and context.
• Quantified and qualified results.
• Key achievements, key issues, unexpected outcomes and recommendations.
• Stories.
• Evidence base.
These reports can be summarised as news stories and published on Council's website/newsletters to communicate progress with the community.

PROGRAM-LEVEL REPORTING

An evaluation of the plan itself should be conducted on an annual basis. In this case it is suggested that the findings of the methods conducted at the plan level be combined with data collected at the project level to create a whole of plan performance report. The project-level performance reports will be included as an appendix to this report. This report could be structured against the following headings:
• Executive summary.
• Background to the program.
• Background to the evaluation.
• Key findings.
• Conclusions.
• Recommendations.
• Appendices (including project performance story reports).

Recommended reports will need to combine quantitative and qualitative data (stories) in an engaging and visually appealing manner.

STEERING COMMITTEE REPORTING

Quarterly reports should be prepared and issued to the Road Safety Committee in advance of the quarterly meetings. These reports will summarise: the project-level reports; progress on the delivery of the implementation plan; projects to be delivered in the next quarter, and a budgetary review. Project-level reports can be included in the appendix.

10. Analysis Undertaken since April 2013

A previous version of the Plan was presented to the City of Melbourne's Future Melbourne Committee (FMC) meeting for consideration on 16 April 2013. At the meeting, representatives of several motorcycle groups requested that this matter be deferred due to concerns that issues they had raised during earlier consultation had not been adequately addressed. The Committee subsequently determined that consideration of the Plan be deferred until the FMC2 meeting on 9 July 2013 to allow further consultation regarding motorcycle safety and amenity issues.

A meeting was held with the representatives of the motorcycle groups on 22 May 2013 to discuss the written submissions. Most of issues raised in the submissions have been addressed or incorporated in the Plan. The additional and/or amended actions, which were proposed as a result of the consultation with the representatives of the motorcycle groups, are highlighted red on page 34 of the Plan.

While the Plan focuses on the vulnerable road users (i.e. pedestrians, cyclists and motorcyclists), it is important to consider the issues affecting all road users, in order to deliver a comprehensive strategy. Following the April FMC meeting, analysis of the crash statistics has been undertaken for cars, trams, buses, trucks and taxis. A number of *Additional* actions (numbered A1 to A11, also highlighted red) have been proposed in order to address the identified crash causes involving these road users. Both the analysis and the additional actions are contained in this section.

The previous version of the Plan contained a reference to the "Hierarchy of vulnerability" (i.e. prioritising both pedestrians and cyclists over motorcyclists, in terms of their vulnerability). Given that pedestrians, cyclists and motorcyclists are all considered to be vulnerable road users, this reference has been removed from the Plan.

Following the April FMC meeting, consultation has been undertaken with both Ambulance Victoria and Metropolitan Fire Brigade regarding the previous version of the Plan. Both of these organisations have expressed concerns regarding the impact of the traffic management proposals on the response times of the emergency vehicles. In order to address these concerns, the following additional action has been proposed:

A1. CONSIDER THE IMPACT OF FUTURE TRAFFIC MANAGEMENT PROPOSALS THAT MAY REDUCE MOTOR VEHICLE CAPACITY ON RESPONSE TIMES OF EMERGENCY VEHICLES.

While there are a number of actions in the Plan which aim to support walking (refer to section 7.2), discussions during the April FMC meeting have highlighted a need for greater focus on the people with disabilities. Therefore, the following additional action has been proposed:

A2. WORK WITH THE DISABILITY ADVOCACY GROUPS AND THE RELEVANT AGENCIES TO DEVELOP APPROPRIATE TREATMENTS, PROGRAMS, STRATEGIES AND POLICIES, IN ORDER TO ADDRESS THE SAFETY, MOBILITY AND AMENITY NEEDS OF THE PHYSICALLY AND INTELLECTUALLY DISABLED PEDESTRIANS.

LONG TERM CRASH TRENDS

In order to assess the long term crash trends, the crashes involving all road users, cars, pedestrians, bicycles, motorcycles, trams, buses, trucks and taxis have been analysed between 1995 and 2011, covering the study periods of both the previous and the current Plans. These crashes are shown on the following page, both in tabular and chart formats.

All road users

There has been a long-term downward trend in crashes involving all road users, which decreased by 17% from 1,098 (in 1995) to 912 (in 2011). However, the crashes have increased in recent years, from their lowest level of 781 (in 2007) to the current level.

Cars

There has been a long-term downward trend in car crashes, which decreased by 25% from 974 (in 1995) to 731 (in 2011). The crashes have increased in recent years, from their lowest level of 617 (in 2007) to the current level.

Pedestrians

There has been a long-term decline in pedestrian crashes, which decreased by 23% from 255 (in 1995) to 197 (in 2011). However, the crashes have increased in recent years, from their lowest level of 171 (in 2006). This is likely due to an increase in the City's daily population, as the pedestrian crash rate (per 100,000 trips) has decreased by 66% between 2001 and 2011.

Bicycles

There has been a steady long-term increase in the bicycle crash trend, which increased by 166% from 105 (in 1995) to 279 (in 2011). This is likely due to a large increase in bicycle usage, as the bicycle crash rate (per 100,000 trips) has decreased by 42% between 2001 and 2011.

Motorcyclists

There has been little long-term change in the motorcycle crashes, which increased by 2% from 110 (in 1995) to 112 (in 2011). However, the number of crashes has fallen significantly from their peak of 164 (in 2002). The crash rate (per 100,000 trips) has decreased by 71% between 2001 and 2011.

Trams

There has been significant long-term decrease in tram crashes. The number of crashes has fallen by 45% from 40 (in 1995) to 22 (in 2011). However, the current level is slightly above the low point of 21 crashes (in 2006). Given the increase in the frequency of tram services in recent years, it is likely that the crash rate has dropped significantly.

Buses

There has been an increase in bus[2] crashes, which rose by 27% from 11 (in 1995) to 14 (in 2011). However, it is difficult to establish a statistically significant trend due to the relatively low overall numbers. The number of crashes has fluctuated significantly since 1995, with the current level being somewhat midway between the peak of 17 crashes (in 2003) and the low of 7 crashes (in 2008). Given the increase in the frequency of bus services in recent years, it is likely that the crash rate has decreased significantly.

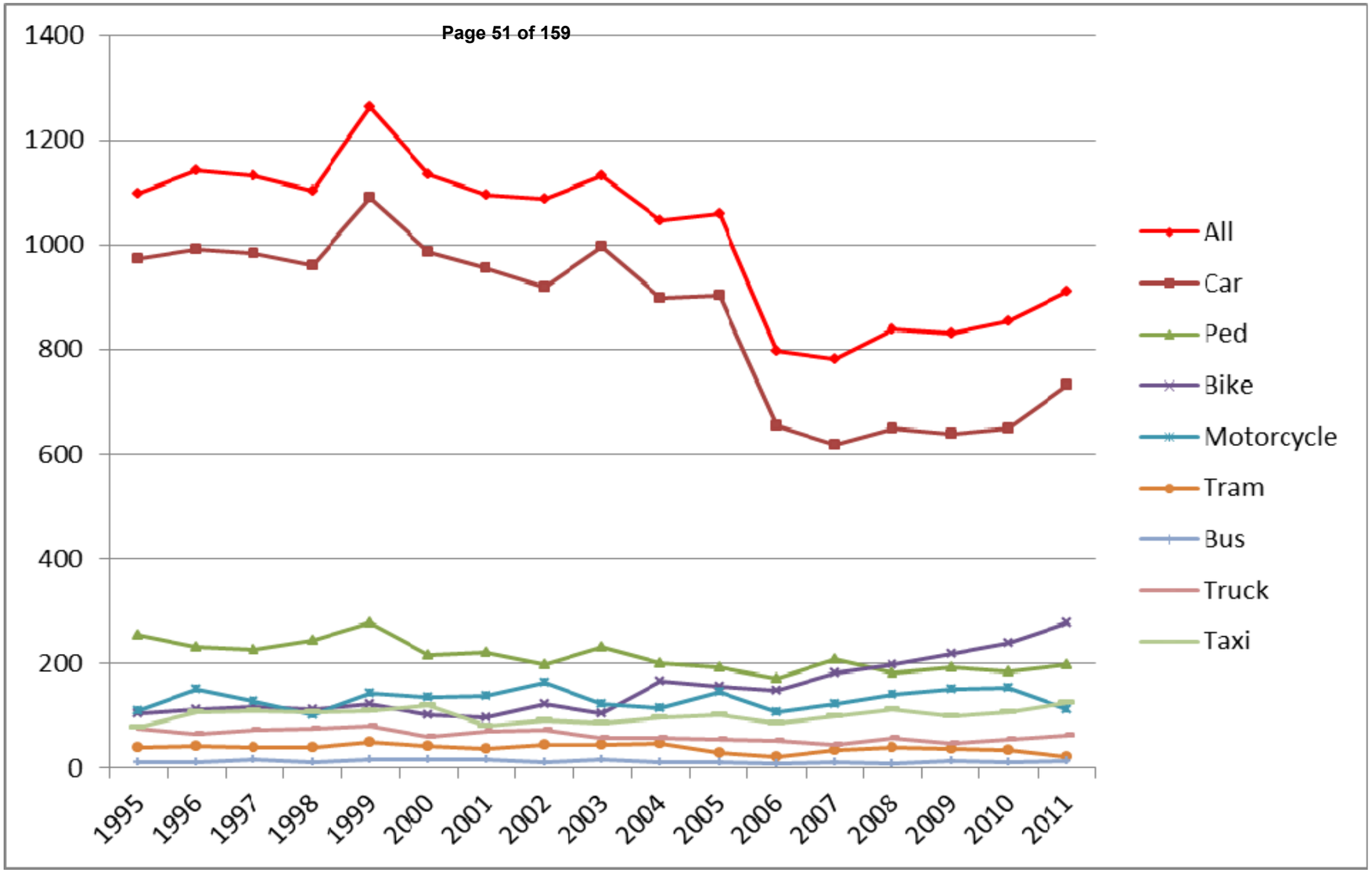
Trucks

There has been a long-term decline in truck crashes, which fell by 17% from 75 (in 1995) to 62 (in 2011). However (as with bus crashes), it is difficult to establish a statistically significant trend. The number of truck crashes has fluctuated since 1995, with the current level being about halfway between the peak of 80 crashes (in 1999) and the low of 44 crashes (in 2007).

Taxis

There has been a long-term 57% increase in taxi crashes, from 79 (in 1995) to 124 (in 2011). This in part may be due to an overall increase in the number of taxis.

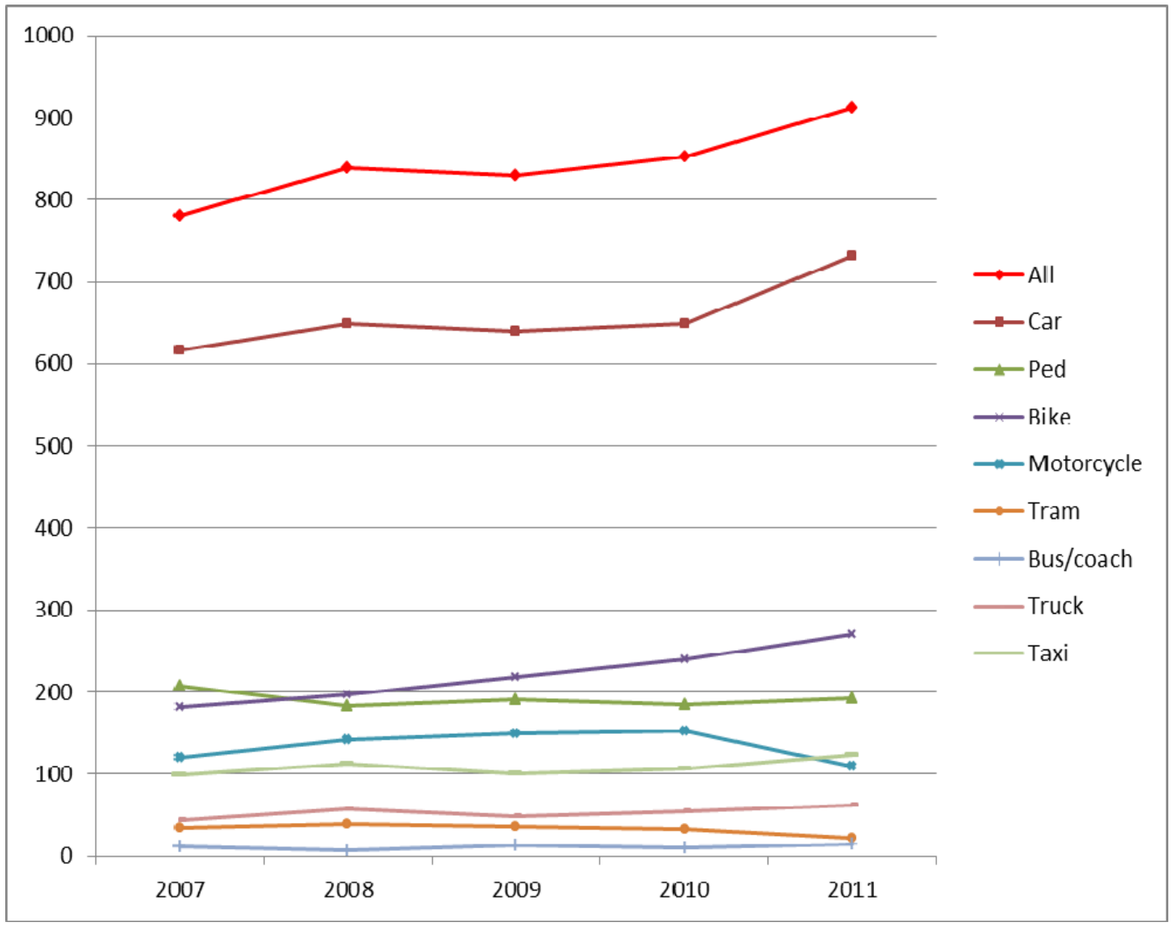
Crashes from 1995-2011



Year	All	Car	Ped	Bike	Motorcycle	Tram	Bus	Truck	Taxi
1995	1098	974	255	105	110	40	11	75	79
1996	1142	992	231	111	150	42	11	65	106
1997	1132	984	226	117	127	39	15	72	110
1998	1104	961	244	112	102	38	11	75	107
1999	1263	1090	277	123	142	50	16	80	108
2000	1134	986	215	102	135	43	15	60	120
2001	1095	955	221	97	137	36	16	70	81
2002	1087	920	198	123	164	44	11	74	91
2003	1131	998	232	105	123	44	17	58	87
2004	1045	897	199	165	115	48	11	58	95
2005	1058	904	193	155	146	29	11	55	102
2006	797	653	171	149	106	21	9	51	86
2007	781	617	208	181	121	34	11	44	99
2008	839	649	183	197	141	39	7	57	113
2009	830	639	191	219	150	36	13	48	100
2010	853	649	185	240	153	33	10	54	107
2011	912	731	197	279	112	22	14	62	124
Total	***17301***	***14599***	***3626***	***2580***	***2234***	***638***	***209***	***1058***	***1715***

CRASHES BY YEAR

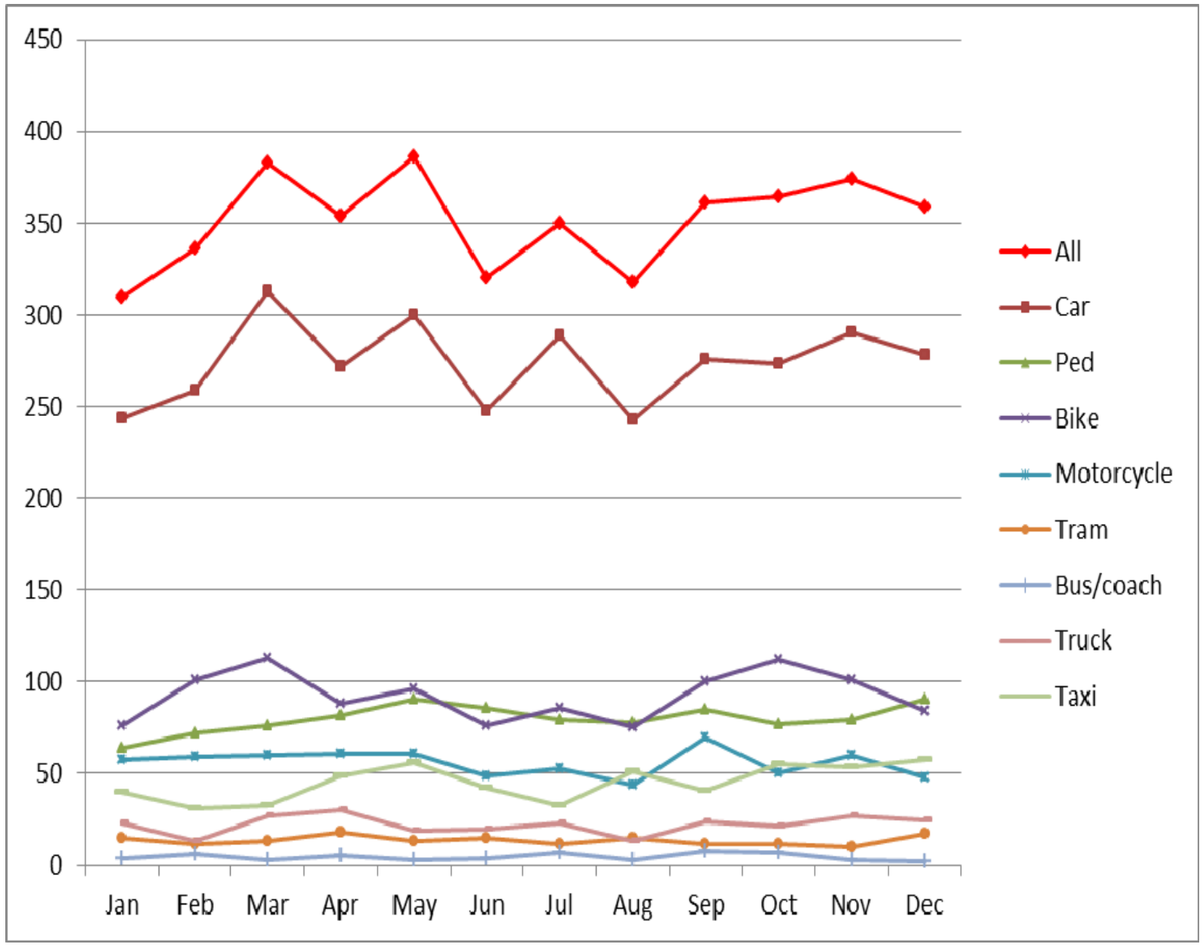
The chart and table below show the analysis of the crashes by 'year' involving all road users, cars, pedestrians, bicycles, motorcycles, trams, buses, trucks and taxis.



Year	All	Car	Ped	Bike	Motorcycle	Tram	Bus	Truck	Taxi
2007	781	617	208	181	121	34	11	44	99
2008	839	649	183	197	141	39	7	57	113
2009	830	639	191	219	150	36	13	48	100
2010	853	649	185	240	152	33	10	54	107
2011	912	731	193	271	109	22	14	62	124
Total	***4215***	***3285***	***960***	***1108***	***673***	***164***	***55***	***265***	***543***

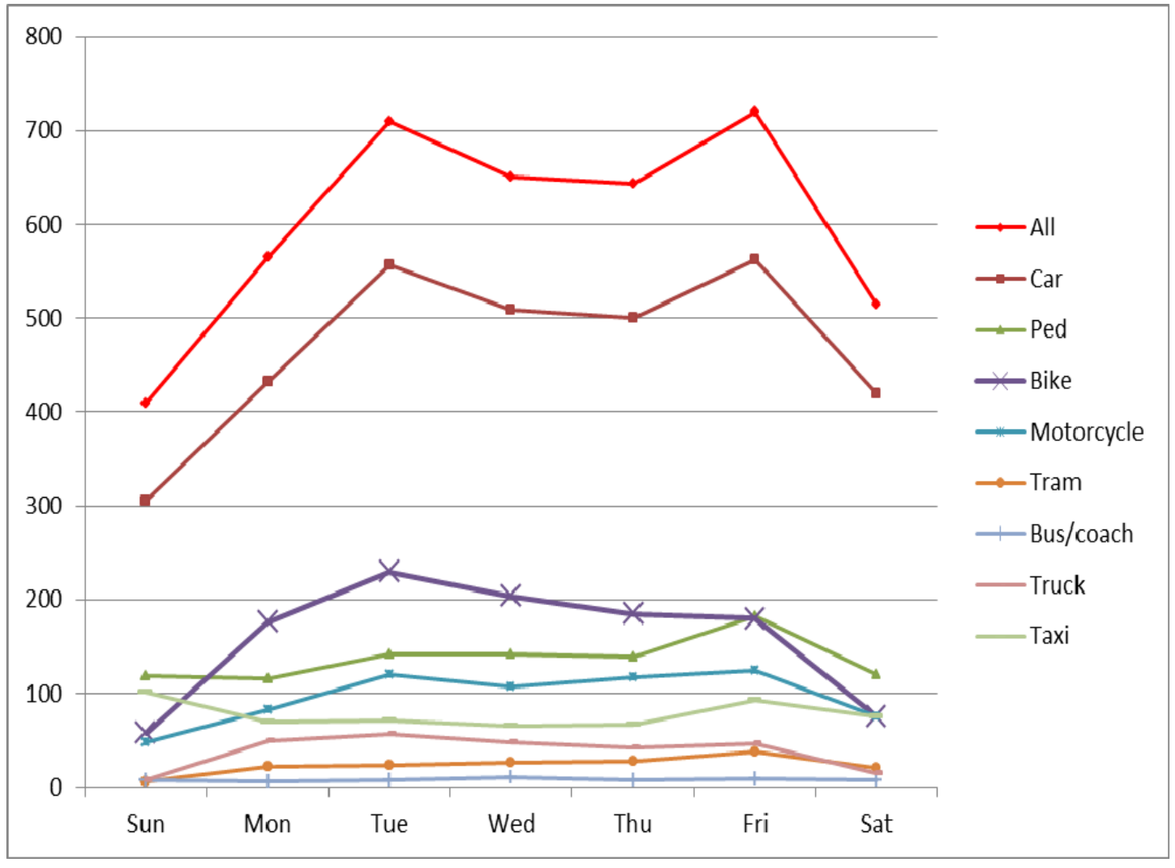
CRASHES BY MONTH

The chart below shows an analysis of the crashes by 'month'.



CRASHES BY DAY OF WEEK

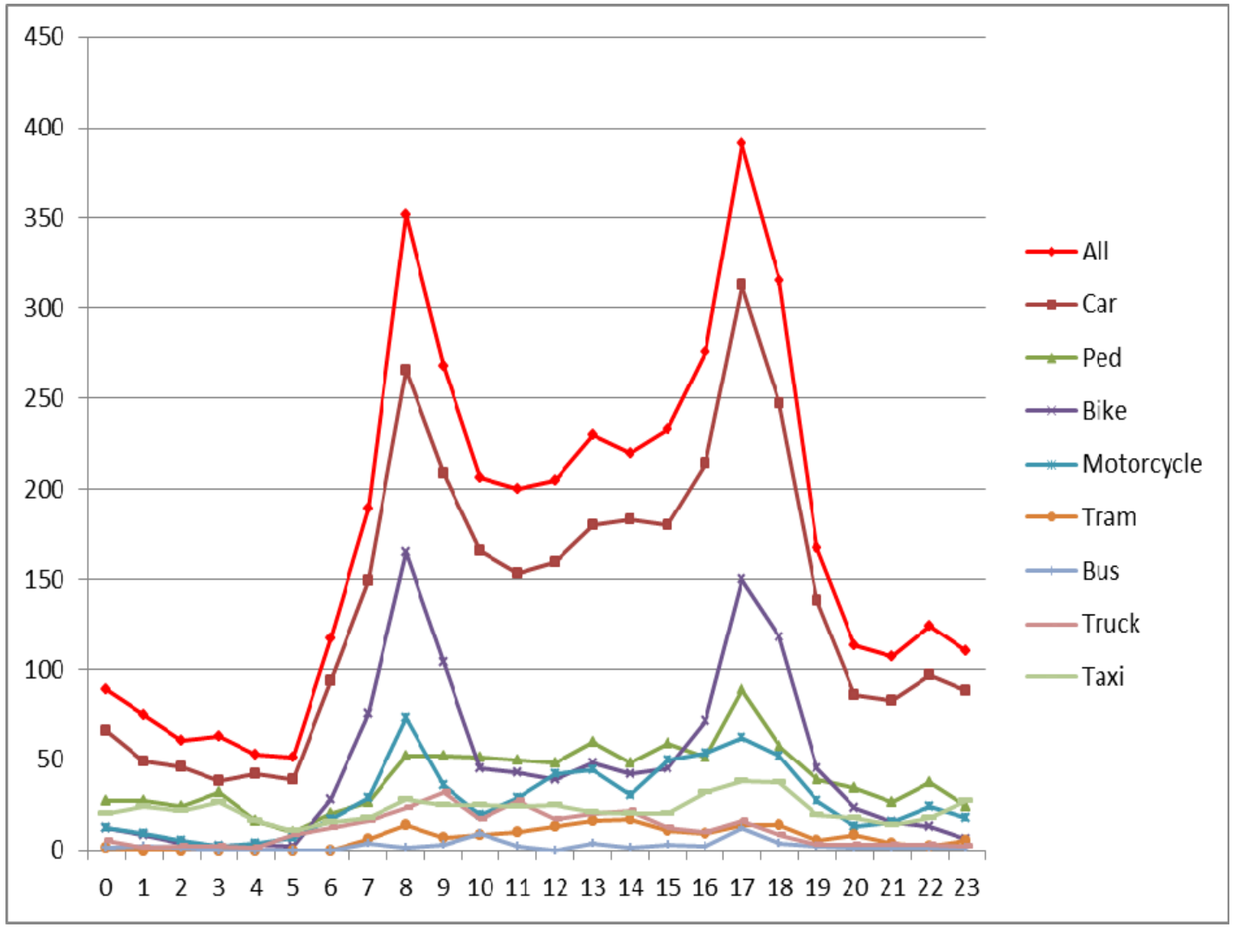
The chart and table below show the analysis of the crashes involving the road users by ‘day of week’.



Day	All	Car	Ped	Bike	Motorcycle	Tram	Bus/coach	Truck	Taxi
Sun	409	305	119	58	48	6	7	7	102
Mon	566	432	116	176	82	22	6	50	70
Tue	710	556	142	230	120	24	7	57	71
Wed	651	509	142	204	107	26	11	48	65
Thu	644	500	139	185	117	27	8	42	67
Fri	720	563	182	180	124	38	9	46	93
Sat	515	420	120	75	75	21	7	15	75
Total	***4215***	***3285***	***960***	***1108***	***673***	***164***	***55***	***265***	***543***

CRASHES BY TIME OF DAY

The chart below shows an analysis of the crashes by ‘time of day’.



10.1 CAR CRASHES

The crashes involving cars in the municipality are analysed below.

During the five-year study period (from January 2007 - December 2011), there were 21 fatal, 1,149 serious injury and 2,115 non-serious injury crashes (a total of 3,285 crashes) involving cars. This represents 77.9% of all crashes in the municipality. There has been an upward trend in the car crashes during this period, with 617 crashes in 2007 and 731 crashes in 2011 (up by 18%).

In terms of days of week, the highest number of crashes occurred on Fridays (563 crashes) and the lowest on Sundays (305 crashes). In terms of months, the highest number occurred in March (313 crashes) and the lowest in August (243 crashes). The numbers of crashes in both January (244 crashes) and June (248 crashes) were only slightly higher than in August. In terms of time of day, the peaks occurred between 8-9am (266 crashes) and between 5-6pm (313 crashes).

The table to the right lists the ten most common car crash types in the municipality during the five-year period, involving cars. A list of all crash types is shown in Appendix B. The locations of the car crashes are shown on the following page.

The crash types involving cars were similar to the types involving all road users (shown in the table on page 20). The three most common types were ‘rear end’, ‘right through’ and ’pedestrian near side’ crashes.

The most common crash type was ‘rear end’. There were 556 such crashes (1 fatal, 138 serious injury and 417 non-serious injury crashes), with 253 occurring at intersections and 303 mid-block.

The second most common crash type was ‘right through’. There were 408 such crashes (380 at intersections and 28 mid-block). Significant numbers of the crashes occurred with bicycles (105 crashes) and motorcycles (68 crashes).

The DCA’s 100, 102 and 109 involved collisions with pedestrians. There were a total of 490 crashes in these categories (324 at intersections and 166 mid-block). Seven of the crashes resulted in fatalities and 207 resulted in serious injuries.

The fourth most common crash type was ‘cross traffic’, with all of the 227 crashes occurring at intersections. Fifty one crashes involved collisions with bicycles and 24 with motorcycles.

There were 204 ‘vehicle strikes door of parked vehicle’ crashes. Almost all of these involved cyclists (193 crashes) and eight involved motorcyclists. Although there were no fatalities, 48 crashes resulted in serious injuries. The number of crashes more than doubled over the five-year period, with 24 crashes in 2007 and 50 crashes in 2011.

There were 119 ‘U-Turn’ crashes (40 at intersections and 79 mid-block). None of the crashes resulted in fatalities and 37 resulted in serious injuries. Fourteen crashes involved cyclists, 35 involved motorcyclists and 21 involved trams.

There were a total of 185 crashes involved both the ‘right turn’ and ‘left turn’ side-swipes (153 at intersections and 32 mid-block). There were no fatalities and 57 serious injuries. Cyclists were involved in 107 crashes, 34 crashes involved motorcyclists and nine involved trams.

There were a total of 185 ‘left turn’ and ‘right turn’ side-swipe crashes (DCA’s 136 and 137), with 153 occurring at intersections and 32 mid-block. Most of these involved collisions between cars and bicycles (107 crashes), and between cars and motorcycles (34 crashes).

DCA No.	Crash Type – Car crashes	Number of crashes
130	Rear end	556
121	Right through	408
100	Pedestrian near side	251
110	Cross traffic	227
163	Vehicle strikes door of parked vehicle	204
102	Pedestrian far side	155
140	U-Turn	119
137	Left turn side-swipe	108
109	Other pedestrian	84
136	Right turn side-swipe	77

Crash avoidance technology is currently available, that can reduce both the incidence and severity of car crashes. Forward collision avoidance technology is designed to alert the driver, apply braking or steer the vehicle, when another vehicle or a pedestrian is detected. Lane departure technology is designed to alert drivers if the vehicle is drifting into the adjacent lane. The severity of the ‘right through’ crashes could be reduced through the use of side-curtain airbags or reinforced car doors.

One of the keys strategic directions of the Victoria’s Road Safety Strategy is to *“Increase the availability of vehicle safety features in the Victorian car market and encourage the uptake of these features”*. The City of Melbourne will work closely with the State Government to support the delivery of this strategic direction.

Proposed Actions

A3. Work with the State Government to support, promote and develop joint road safety campaigns and programs, targeting the behaviours that contribute to the causes of the most common types of car crashes, including:

- Vehicles ‘tailgating’ (i.e. not leaving a safe distance from the vehicle in front), which contributes to ‘rear end’ crashes;
- Vehicles ‘running red lights’ and/or going through amber lights when they are able to stop safety, which contributes to ‘right through’ crashes;
- Motorists not looking out for cyclists, motorcyclists and trams when U-turning; and
- Motorists not looking out for cyclists and motorcyclists (who may be riding to their left/right, or travelling straight towards them) when turning at intersections.

Locations of car crashes

The map above indicatively shows the crashes that occurred in the municipality during the five-year study period (from January 2007 – December 2011), involving cars. The crashes at the intersections are highlighted red and the crashes at the mid-block locations are highlighted green. This map has been copied from Crash Stats.

10.2 TRAM CRASHES

The crashes involving trams in the municipality are analysed below.

During the five-year study period, there was one fatal, 67 serious injury and 96 non-serious injury crashes (a total of 164 crashes) involving trams. This represents 3.9% of all crashes in the municipality. There has been a downward trend in the tram crashes during this period, with 34 crashes in 2007 and 22 crashes in 2011 (down by 35%).

In terms of days of week, the highest number of tram crashes occurred on Fridays (38 crashes) and the lowest on Sundays (6 crashes). In terms of months, the highest number of crashes occurred in April (18 crashes) and the lowest in November (10 crashes). In terms of time of day, the peaks occurred between 8-9am (14 crashes) and between 2-3pm (17 crashes). During the PM general traffic peak period, there were slightly lower peaks (than in the AM), which lasted over a two hour (14 crashes occurred both between 5-6pm and between 6-7pm).

The table below lists the 10 most common tram crash types during the five-year period, involving trams. The locations of the trams crashes are shown on the map on the map to the right.

The most common crash type was 'U-Turn' (24 crashes), which involved vehicles (mostly cars) U-turning in front of trams (9 at intersections and 15 mid-block, often at median openings). The roads along which at least two crashes occurred included Wellington Parade (4 crashes), Flinders Street (4 crashes), St Kilda Road (3 crashes), Nicholson Street (3 crashes), Spencer Street (2 crashes), Collins Street (2 crashes) and Clarendon Street (2 crashes).

A total of 69 crashes (DCA's 100, 109, 102, 108 and 190) involved injuries to pedestrians while crossing the road, boarding/alighting or falling in/from the trams.

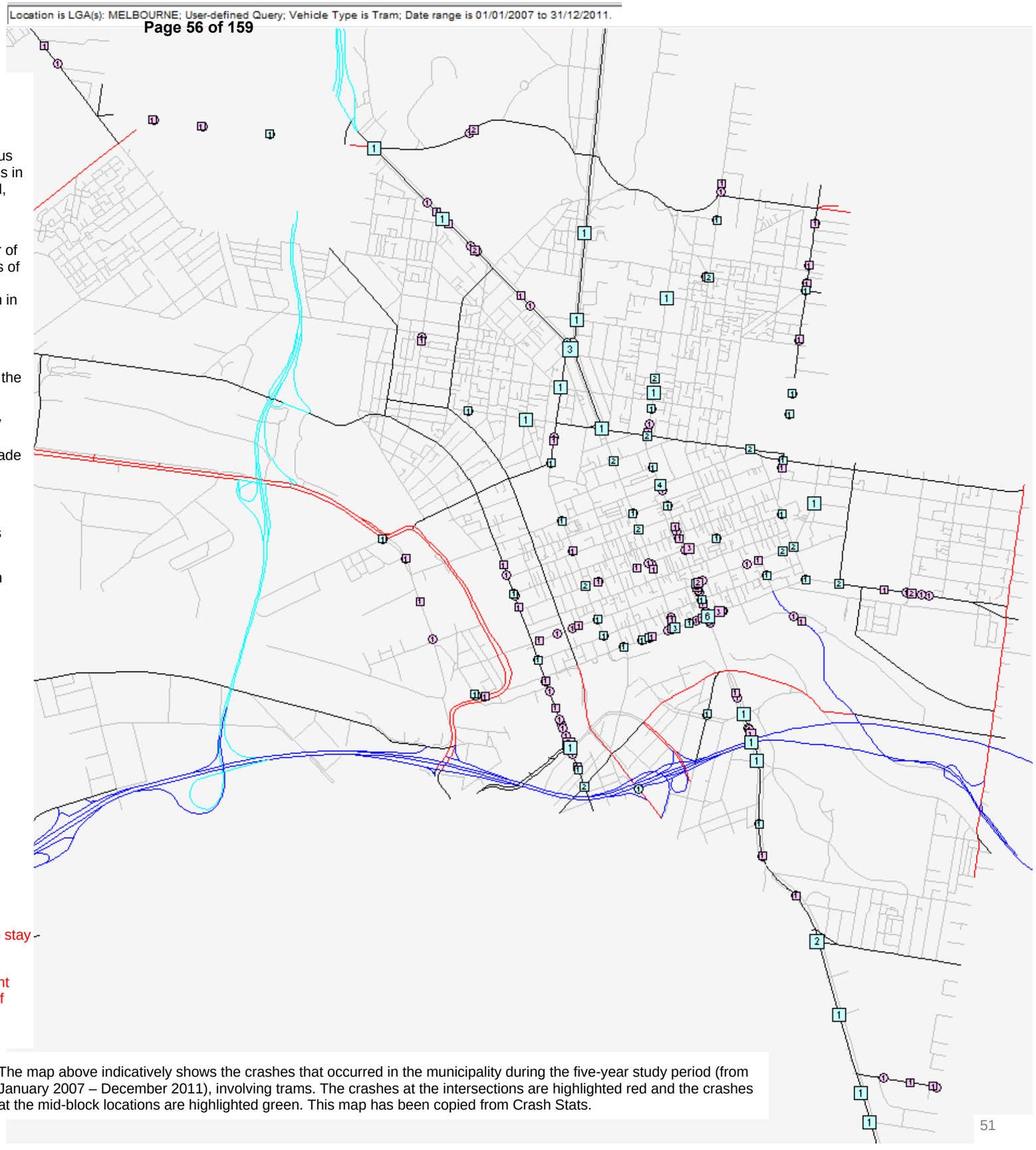
The 'right turn side-swipe' and 'lane change right' crashes are likely to have resulted from motorists entering the tram reserve (to their right side), without looking out for trams.

DCA No.	Crash Type – Tram crashes	Number of crashes
140	U-Turn	24
100	Pedestrian near side	21
109	Other pedestrian	20
102	Pedestrian far side	12
136	Right turn side-swipe	12
108	Pedestrian struck while boarding/alighting tram	10
134	Lane change right	10
190	Fell in/from tram	6
130	Rear end	6
113	Right-near	5

Proposed Actions

A4. Support the 'Beware the Rhino' campaign by Yarra Trams, to encourage motorists to stay clear of the yellow line and always check for trams before turning.

A5. Work with Yarra Trams and PTV to identify the causes of tram crashes and implement appropriate road safety treatments, designed to reduce both the incidence and severity of crashes.



The map above indicatively shows the crashes that occurred in the municipality during the five-year study period (from January 2007 – December 2011), involving trams. The crashes at the intersections are highlighted red and the crashes at the mid-block locations are highlighted green. This map has been copied from Crash Stats.

10.3 BUS CRASHES

The crashes involving buses[1] in the municipality are analysed below. During the five-year study period, there was one fatal, 24 serious injury and 30 non-serious injury crashes (a total of 55) involving buses. This represents 1.3% of all crashes in the municipality.

There has been an upward trend in crashes during this period, with 11 crashes in 2007 and 14 crashes in 2011 (up by 27%).

In terms of days of week, the highest number of crashes occurred on Wednesday (11 crashes) and the lowest on Mondays (6 crashes). In terms of months, the highest number occurred in September (8 crashes) and the lowest in December (2 crashes). In terms of time of day, the peaks occurred between 10-11am (9 crashes) and between 5-6pm (12 crashes).

The table below lists the seven[2] most common bus crash types during the five-year period, involving buses. The locations of the bus crashes are shown on the following page.

The most common crash type was 'side-swipe'. There were nine such crashes (5 at intersections and 4 mid-block), all of which involving collisions between buses and cyclists. In seven of these crashes, a cyclist was riding to the right of the bus, while in the remaining two crashes, a cyclist was riding to the left of the bus.

A total of 18 crashes (DCA's 100, 109, 102 and 190) involved injuries to pedestrians while crossing the road or falling in/from the bus.

There were four 'lane change left' crashes (2 at intersections and 2 mid-block). Three of the crashes involved a collision between a bus and a bicycle, with a bus veering to the left (into the path of a cyclist).

DCA No.	Crash Type – Bus crashes	Number of crashes
133	Side-swipe (parallel lanes)	9
100	Pedestrian near side	5
109	Other pedestrian	5
135	Lane change left	4
102	Pedestrian far side	4
190	Fell in/from bus	4
130	Rear end	3

Proposed Actions

A6. Advocate to the PTV and to other relevant Australian/Victorian transport agencies and private bus/coach companies, to provide appropriate information and training to bus drivers, to look out for cyclists and motorcyclists when changing lanes and pulling into/out of bus stops.

A7. Work with the PTV to explore existing technologies with a view to installing blind spot monitoring equipment on buses, to mitigate the danger of blind spots for cyclists and motorcyclists.

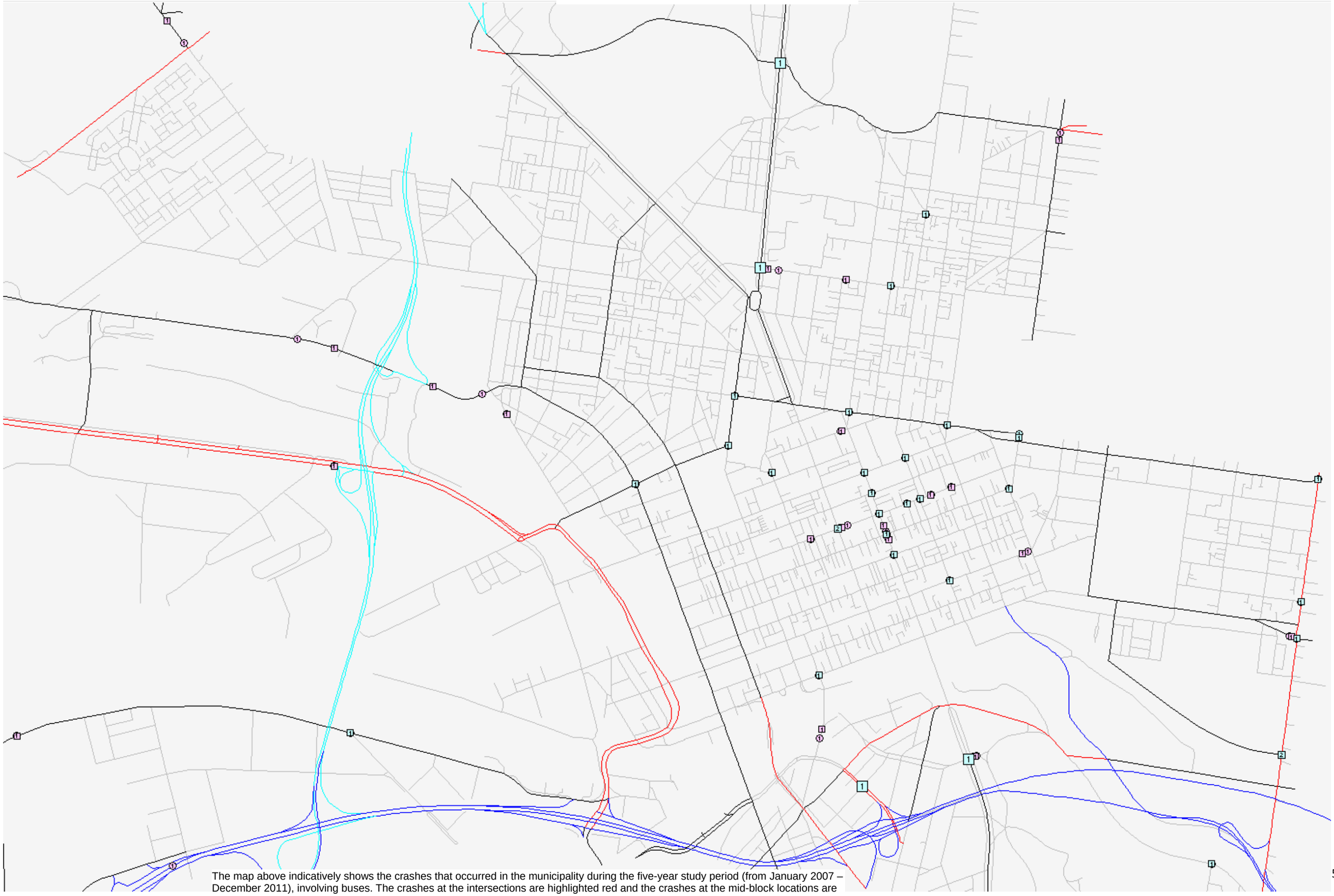
A8. Consider the development of behavioural programs to encourage cyclists to give way to buses when they are leaving bus stops.

[1] This category includes both buses and coaches, as defined in Crashstats, but excludes minibuses.

[2] While the 7th most frequent crash type was DCA130 (with 3 crashes), there were 6 crash types (with 2 crashes each), which were the next most frequent. Therefore, for clarity, the table above only lists 7 of the most frequent crash types. All of the crash types are listed in Appendix B.

Location is LGA(s): MELBOURNE; User-defined Query; Vehicle Type is Bus/coach; Date range is 01/01/2007 to 31/12/2011.

Locations of bus crashes



The map above indicatively shows the crashes that occurred in the municipality during the five-year study period (from January 2007 – December 2011), involving buses. The crashes at the intersections are highlighted red and the crashes at the mid-block locations are highlighted green. This map has been copied from Crash Stats.

10.4 TRUCK CRASHES

The crashes involving trucks in the municipality are analysed below. This includes all truck types (as defined in Crashstats) including prime movers, rigid trucks, B-Doubles and B-Triples.

During the five-year study period, there were three fatal, 110 serious injury and 152 non-serious injury crashes (a total of 265 crashes) involving trucks, representing 6.3% of all crashes in the municipality. There has been an upward trend in the crashes during this period, with 44 crashes in 2007 and 62 in 2011 (up by 41%).

In terms of days of week, the highest number of crashes occurred on Tuesdays (57 crashes) and the lowest on Sundays (7 crashes). In terms of months, the highest number occurred in April (30 crashes), while the lowest number occurred in both February (13 crashes) and August (13 crashes). In terms of time of day, the peaks occurred between 9-10am (32 crashes) and between 5-6pm (12 crashes).

The table below lists the nine[1] most common truck crash types in the municipality during the five-year period, involving trucks. The locations of the truck crashes are shown on the following page.

The most common crash type was 'rear-end' (63 crashes). Thirty five of the crashes are likely to have involved trucks colliding with the rear of cars, 10 involved trucks colliding with the rear of other trucks, one involved a truck colliding with the rear of a motorbike and one involved a truck colliding with the rear of a bicycle. Ten crashes involved cars colliding with the rear of trucks and three involved motorcycles colliding with the rear of trucks.

There were 23 'lane change left' crashes (18 trucks veered left into the path of cars, 4 truck veered left into the path of bicycles and 1 truck veered left into the path of a motorcycle).

There were 11 'lane change right' crashes (5 trucks veered right into the path of cars, 1 truck veered right into the path of a motorcycle and 4 cars veered right into the path of trucks).

There were 14 'right through' crashes (5 trucks turned right into the path of cars, 3 trucks turned right into the path of motorcycles, 1 truck turned right into the path of another truck and 5 cars turned right into the path of trucks).

There were 12 'left turn side-swipe' crashes. Seven of these involved collisions between trucks and bicycles (all bikes were riding to the left of trucks, at intersections), four involved collisions between trucks and cars (cars were driving to the left of trucks in three of the crashes) and one a collision between two trucks.

There were nine 'vehicle strikes door of parked vehicle' crashes (7 involving bicycles striking the doors of trucks and 1 involving a truck striking a car door).

DCA No.	Crash Type – Truck crashes	Number of crashes
130	Rear end	63
133	Side-swipe (parallel lanes)	27
135	Lane change left	23
121	Right through	14
110	Cross traffic	12
137	Left turn side-swipe	12
134	Lane change right	11
163	Vehicle strikes door of parked vehicle	9
100	Pedestrian near side	8

[1] *While the 9th most frequent crash type was DCA100 (with 8 crashes), there were 5 crash types (with 6 crashes each), which were the next most frequent. Therefore, for clarity, the table above only lists 9 of the most frequent crash types. All of the crash types are listed in Appendix B.*

A significant number of crashes involved trucks colliding with the rear of other vehicles. In most of the 'rear end' crashes involving two cars, the 'rear' driver is usually at fault. However, the collisions between cars and trucks often result from car drivers abruptly changing lanes in front of trucks, and misjudging the (much greater) distance it takes for the trucks to slow down, due to their heavy mass.

A significant number of crashes involved trucks changing lanes (mostly to their left), into the path of other vehicles. This could be partly due to the blind spots on trucks, and partly due to motorists not allowing sufficient space for the trucks to merge.

Most of the 'right through' crashes involved trucks turning right into the path of other vehicles. This could be partly due to the trucks failing to give way when turning, and partly due to motorists misjudging the length of time taken for the trucks to complete their turns.

The 'right through' crashes involving cars turning right into the path of trucks could partly be due the car drivers failing to give way to trucks, and partly be due to the trucks not stopping (or being able to stop in time) when traffic signals turn amber.

Most of the 'left turn side-swipe' crashes involved trucks side-swiping bicycles riding to the left of the trucks. This could be partly due to the blind spots on trucks, partly due to the truck drivers not watching out for cyclists and partly due to the cyclists not allowing sufficient space for the trucks to turn.

Proposed Actions

A9. Advocate to the commercial transport industry and to the relevant Australian/Victorian transport agencies:

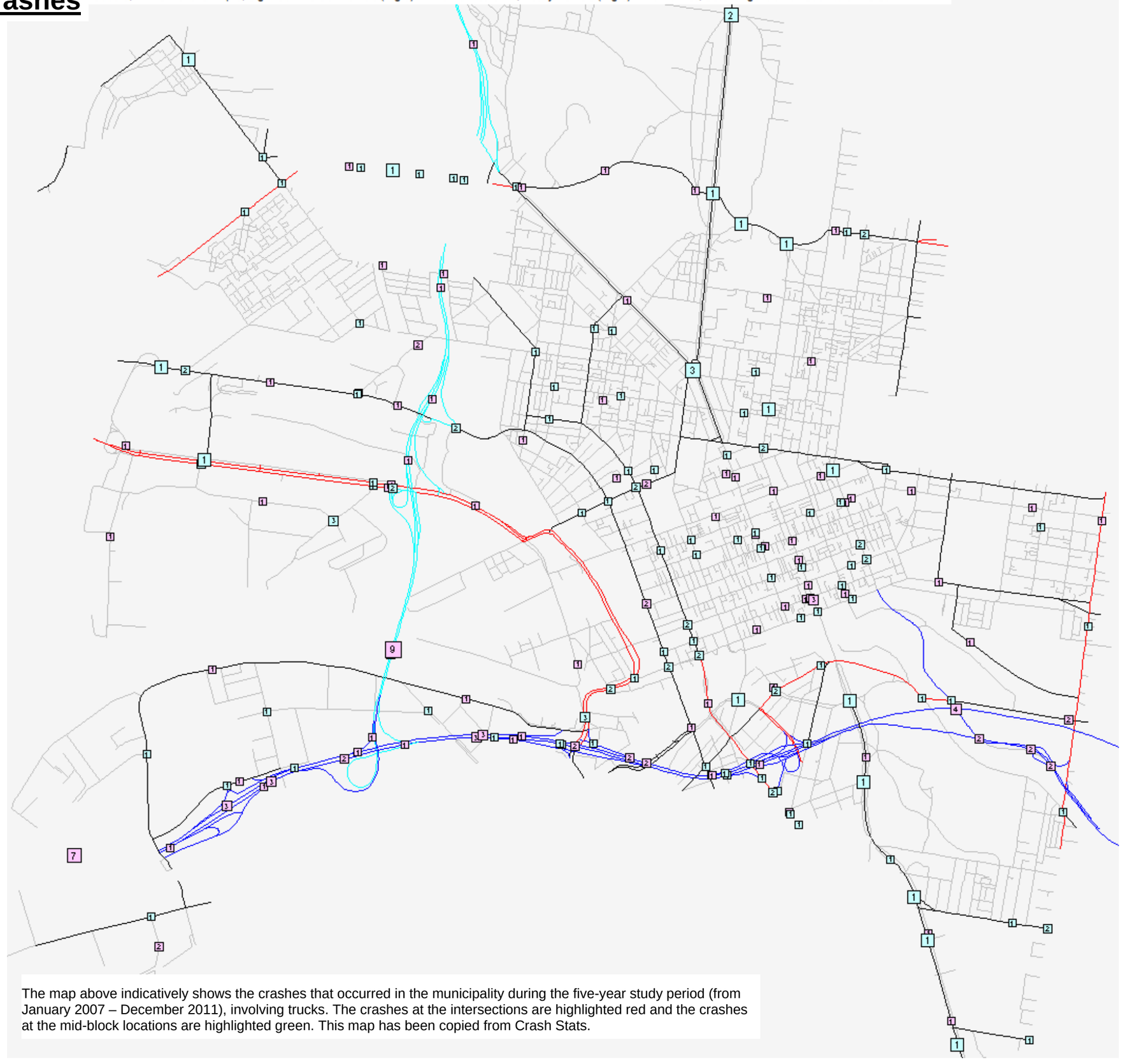
- For equipment to be installed on trucks, to alert the drivers when they are following too closely;
- For blind spot monitoring equipment to be installed on trucks;
- To discourage 'tailgating';
- To encourage the drivers to stop when traffic signals turn amber; and
- To encourage the drivers to look out for cyclists/motorcyclists when changing lanes and turning.

A10. Consider the development of education campaigns, targeting behaviours that contribute to the causes of the most common types of truck crashes, including:

- Car drivers abruptly changing lanes in front of trucks;
- Motorists not allowing sufficient space for the trucks to merge into traffic and to undertake turning manoeuvres; and
- Cyclists not allowing sufficient space for the trucks to turn.

Locations of truck crashes

A(s): MELBOURNE; User-defined Query; Vehicle Type is Prime Mover (No of Trailers Unknown), Rigid Truck(Weight Unknown), Prime Mover - Single Trailer, I-Double, Prime Mover B-Triple, Light Commercial Vehicle (Rigid) <= 4.5 Tonnes GVM, Heavy Vehicle (Rigid) > 4.5 Tonnes; Date range is 01/01/2007 to 31/12/2011.



The map above indicatively shows the crashes that occurred in the municipality during the five-year study period (from January 2007 – December 2011), involving trucks. The crashes at the intersections are highlighted red and the crashes at the mid-block locations are highlighted green. This map has been copied from Crash Stats.

10.5 TAXI CRASHES

The crashes involving taxis in the municipality are analysed below.

During the five-year study period, there were two fatal, 175 serious injury and 366 non-serious injury crashes (a total of 543 crashes) involving taxis, representing 12.9% of all crashes in the municipality.

There has been an upward trend in the taxi crashes during this period, with 99 crashes in 2007 and 124 crashes in 2011 (up by 25%).

In terms of days of week, the highest number of crashes occurred on Sundays (102 crashes) and the lowest on Wednesdays (65 crashes). In terms of months, the highest number of crashes occurred in December (58 crashes) and the lowest in February (31 crashes). There were a number peaks in terms of time of day, including between 3-4am (26 crashes), 8-9am (28 crashes), 5-6pm (38 crashes) and 11pm-midnight (27 crashes).

The table below lists the ten most common taxi crash types during the five-year period, involving taxis. The locations of the taxi crashes are shown on the map on the map to the right.

The crash types involving taxis were similar to the types involving cars. The two most common crash types were 'rear end' and 'right through' crashes.

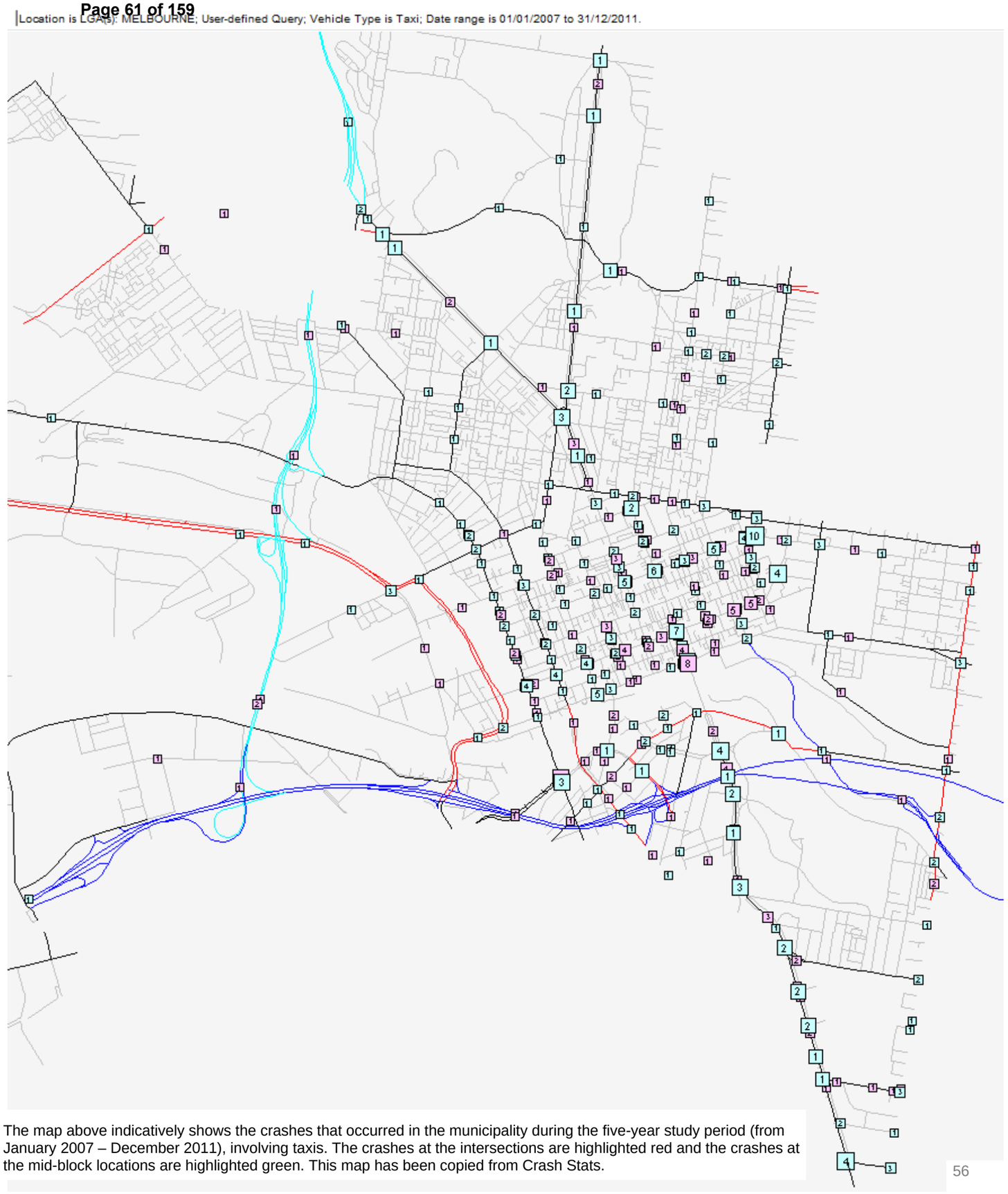
The next three most common types were DCA's 163, 110 and 100. These three types were also the next three most common types of crashes involving cars (although in a different order of occurrence).

DCA No.	Crash Type	Number of crashes
130	Rear end	79
121	Right through	66
163	Vehicle strikes door of parked vehicle	55
110	Cross traffic	43
100	Pedestrian near side	41
102	Pedestrian far side	34
140	U-Turn	29
109	Other pedestrian	27
135	Lane change left	16
134	Lane change right	15

Proposed Actions

A11. Advocate to the taxi industry and to the relevant Australian/Victorian transport agencies:

- For equipment to be installed on taxis, to alert the drivers when they are following too closely;
- For blind spot monitoring equipment to be installed on taxis;
- To discourage 'tailgating' and 'running red lights';
- To encourage drivers to stop when traffic signals turn amber;
- To encourage drivers to look out for cyclists/motorcyclists (who may be riding to their left/right, or travelling straight towards them) when turning at intersections; and
- To encourage the drivers to look out for cyclists, motorcyclists and trams when U-turning.

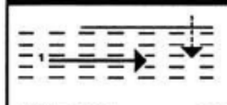
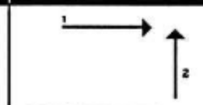
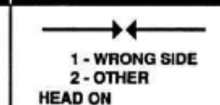
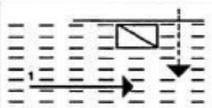
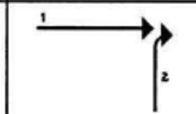
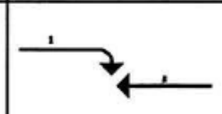
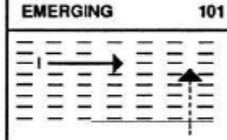
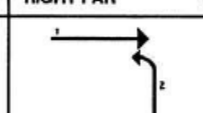
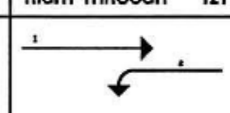
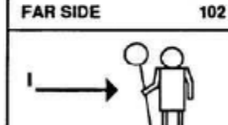
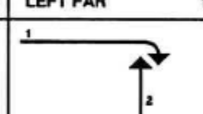
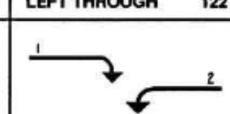
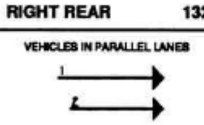
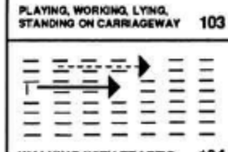
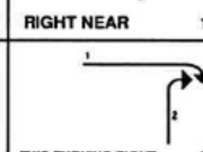
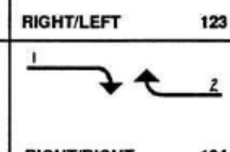
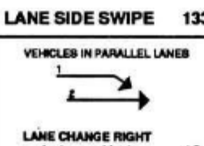
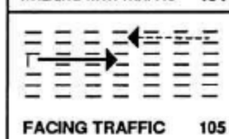
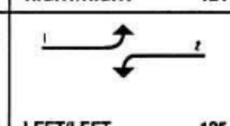
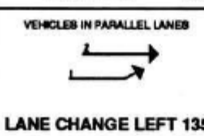
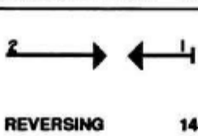
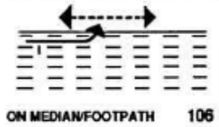
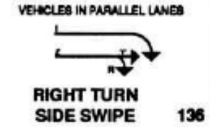
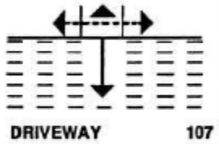
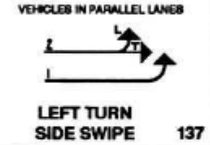


The map above indicatively shows the crashes that occurred in the municipality during the five-year study period (from January 2007 – December 2011), involving taxis. The crashes at the intersections are highlighted red and the crashes at the mid-block locations are highlighted green. This map has been copied from Crash Stats.

APPENDIX A

Definition of Crash Types

The following definitions of crash types (referred to as Definitions for Classifying Accidents – DCA Codes) are produced by the Road User Behaviour Branch, Road Safety Division, Vic Roads.

PEDESTRIAN ON FOOT IN TOY / PRAM	VEHICLES FROM ADJACENT DIRECTIONS (INTERSECTIONS ONLY)	VEHICLES FROM OPPOSING DIRECTION	VEHICLES FROM SAME DIRECTION	MANOEUVRING
 NEAR SIDE 100	 CROSS TRAFFIC 110	 1 - WRONG SIDE 2 - OTHER HEAD ON (not overtaking) 120	 REAR END 130	 'U' TURN 140
 EMERGING 101	 RIGHT FAR 111	 RIGHT THROUGH 121	 LEFT REAR 131	 'U' TURN INTO FIXED OBJECT PARKED VEHICLE 141
 FAR SIDE 102	 LEFT FAR 112	 LEFT THROUGH 122	 RIGHT REAR 132	 LEAVING PARKING 142
 PLAYING, WORKING, LYING, STANDING ON CARRIAGEWAY 103	 RIGHT NEAR 113	 RIGHT/LEFT 123	 LANE SIDE SWIPE 133	 ENTERING PARKING 143
 WALKING WITH TRAFFIC 104	 TWO TURNING RIGHT 114	 RIGHT/RIGHT 124	 LANE CHANGE RIGHT (not overtaking) 134	 PARKING VEHICLES ONLY 144
 FACING TRAFFIC 105	 RIGHT/LEFT FAR 115	 LEFT/LEFT 125	 LANE CHANGE LEFT 135	 REVERSING 145
 ON MEDIAN/FOOTPATH 106	 LEFT NEAR 116		 RIGHT TURN SIDE SWIPE 136	 REVERSING INTO FIXED OBJECT - PARKED VEHICLE 146
 DRIVEWAY 107	 LEFT/RIGHT FAR 117		 LEFT TURN SIDE SWIPE 137	 EMERGING FROM DRIVEWAY - LANE 147
 STRUCK WHILE BOARDING OR ALIGHTING VEHICLE 108	 TWO LEFT TURN 118			FROM FOOTWAY 148
OTHER PEDESTRIAN 109	OTHER ADJACENT 119	OTHER OPPOSING 129	OTHER SAME DIRECTION 139	OTHER MANOEUVRING 149

1. Definition for classifying accidents (DCA) should be determined by first selecting a column using the text above & then by diagrammatic sub-division.
2. The sub-division chosen should describe the general movement of vehicles involved in the initial event. It does not assign a cause to the accident.
3. Supplementary codes have been defined for most sub-divisions. These codes give further detail of the initial event.

OVERTAKING	ON PATH	OFF PATH ON STRAIGHT	OFF PATH ON CURVE	PASSENGER AND MISCELLANEOUS
HEAD ON (not sideswipe) 150	PARKED 160	OFF CARRIAGEWAY TO LEFT 170	OFF CARRIAGEWAY RIGHT BEND 180	FELL IN/FROM VEHICLE 190
OUT OF CONTROL 151	DOUBLE PARKED 161	LEFT OFF CARRIAGEWAY INTO OBJECT - PARKED VEHICLE 171	OFF RIGHT BEND INTO OBJECT/PARKED VEHICLE 181	LOAD OR MISSLE STRUCK VEHICLE 191
PULLING OUT 152	ACCIDENT OR BROKEN DOWN 162	OFF CARRIAGEWAY TO RIGHT 172	OFF CARRIAGEWAY LEFT BEND 182	STRUCK TRAIN 192
CUTTING IN 153	VEHICLE DOOR 163	RIGHT OFF CARRIAGEWAY INTO OBJECT - PARKED VEHICLE 173	OFF LEFT BEND INTO OBJECT/PARKED VEHICLE 183	STUCK RAILWAY CROSSING FURNITURE 193
PULLING OUT - REAR END 154	PERMANENT OBSTRUCTION ON CARRIAGEWAY 164	OUT OF CONTROL ON CARRIAGEWAY 174	OUT OF CONTROL ON CARRIAGEWAY 184	PARKED CAR RUN AWAY 194
	TEMPORARY ROADWORKS 165	OFF END OF ROAD 'T' INTERSECTION 175		
	STRUCK OBJECT ON CARRIAGEWAY 166			
	ANIMAL (not ridden) 167			OTHER 198
OTHER OVERTAKING 159	OTHER ON PATH 169	OTHER STRAIGHT 179	OTHER CURVE 189	? UNKNOWN 199

4. The number 1,2 identify individual vehicles involved when the DCA is linked with other vehicle/driver information.
5. These codes were used for 1987 accidents and replace the Road User Movement (RUM) code.

Produced by the Road User Behaviour Branch, Road Safety Division, VIC ROADS - DCA.pm4 & DCA2.pm4

APPENDIX B

Number of Crashes by Crash Type

DCA No.	Crash Type	All Road Users	Car crashes	Pedestrian crashes	Bicycle crashes	Motorcycle crashes	Tram crashes	Bus crashes	Truck crashes	Taxi crashes
100	Pedestrian near side, Pedestrian hit by vehicle from the right	359	251	359	12	13	21	5	8	41
101	Pedestrian emerges from in front of parked car	57	38	57	3	4	4	0	2	5
102	Far side, Pedestrian hit by vehicle from the left	221	155	221	4	11	12	4	2	34
103	Pedestrian standing on road	41	19	41	0	1	4	2	6	7
104	Pedestrian walking with traffic	21	9	21	0	0	4	1	2	2
105	Pedestrian walking against traffic	7	4	7	0	0	0	1	0	2
106	Vehicle strikes Pedestrian on footpath, median, island	12	6	12	1	1	1	0	0	2
107	Pedestrian on footpath struck by vehicle entering/leaving driveway	11	9	11	0	0	0	0	1	0
108	Pedestrian struck while boarding/alighting vehicle	41	22	41	3	0	10	0	1	8
109	Other pedestrian	151	84	150	9	1	20	5	6	27
110	Cross traffic	243	227	2	60	28	3	1	12	43
111	Right-far	32	30	0	11	8	1	0	2	2
112	Left-far	1	1	0	0	0	0	0	0	0
113	Right-near	71	66	0	24	9	5	1	4	7
114	Two right turning	5	4	0	2	1	1	0	1	1
115	Right/left far	2	2	0	0	1	0	0	0	0
116	Left-near	39	33	0	30	1	0	0	3	2
117	Left/right far	2	2	0	1	0	0	0	0	0
118	Two left turning	0	0	0	0	0	0	0	0	0
119	Other adjacent	23	20	0	12	4	2	0	4	0
120	Head on (not overtaking)	21	23	0	3	3	1	0	2	2
121	Right through	432	408	1	116	80	1	2	14	66
122	Left through	1	0	0	1	0	0	0	0	1
123	Right/left	2	1	0	2	0	0	0	0	1
124	Right/right	1	0	0	1	0	0	0	0	1
125	Left/left	0	0	0	0	0	0	0	0	0
126	Other opposing	6	5	0	3	1	1	0	0	0
130	Rear end	587	556	6	45	79	6	3	63	79
131	Left rear	33	28	1	5	6	0	0	5	3
132	Right rear	50	47	0	2	11	2	0	3	6
133	Side swipe (parallel lanes)	115	72	1	68	21	3	9	27	14
134	Lane change right	76	61	0	15	26	10	2	11	15
135	Lane change left	95	75	0	31	28	0	4	23	16
136	Right turn side-swipe	83	77	0	21	28	12	1	4	6
137	Left turn side-swipe	130	108	1	109	9	0	1	12	8
139	Other same direction	24	18	0	11	5	2	0	1	3
140	U-Turn	140	119	0	23	43	24	2	2	29
141	U-Turn into fixed object/parked vehicle	4	4	1		0	0	0	0	0
142	Leaving parking	33	31	0	13	6	1	0	0	1
143	Entering parking	58	54	0	20	24	0	0	2	6
144	Parked vehicles only	0	0	0		0	0	0	0	0

(Source: 2007-2011 CrashStats)

The table above lists all of the crashes that occurred in the municipality during the five-year study period (from January 2007 to December 2011), involving all road users, cars, pedestrians, bicycles, motorcycles, trams, buses, trucks and taxis. The crashes are categorised according to the Crash Types, which are shown in Appendix A *(the analysis of the crashes involving cars, trams, buses, trucks and taxis has been undertaken after April 2013)*.

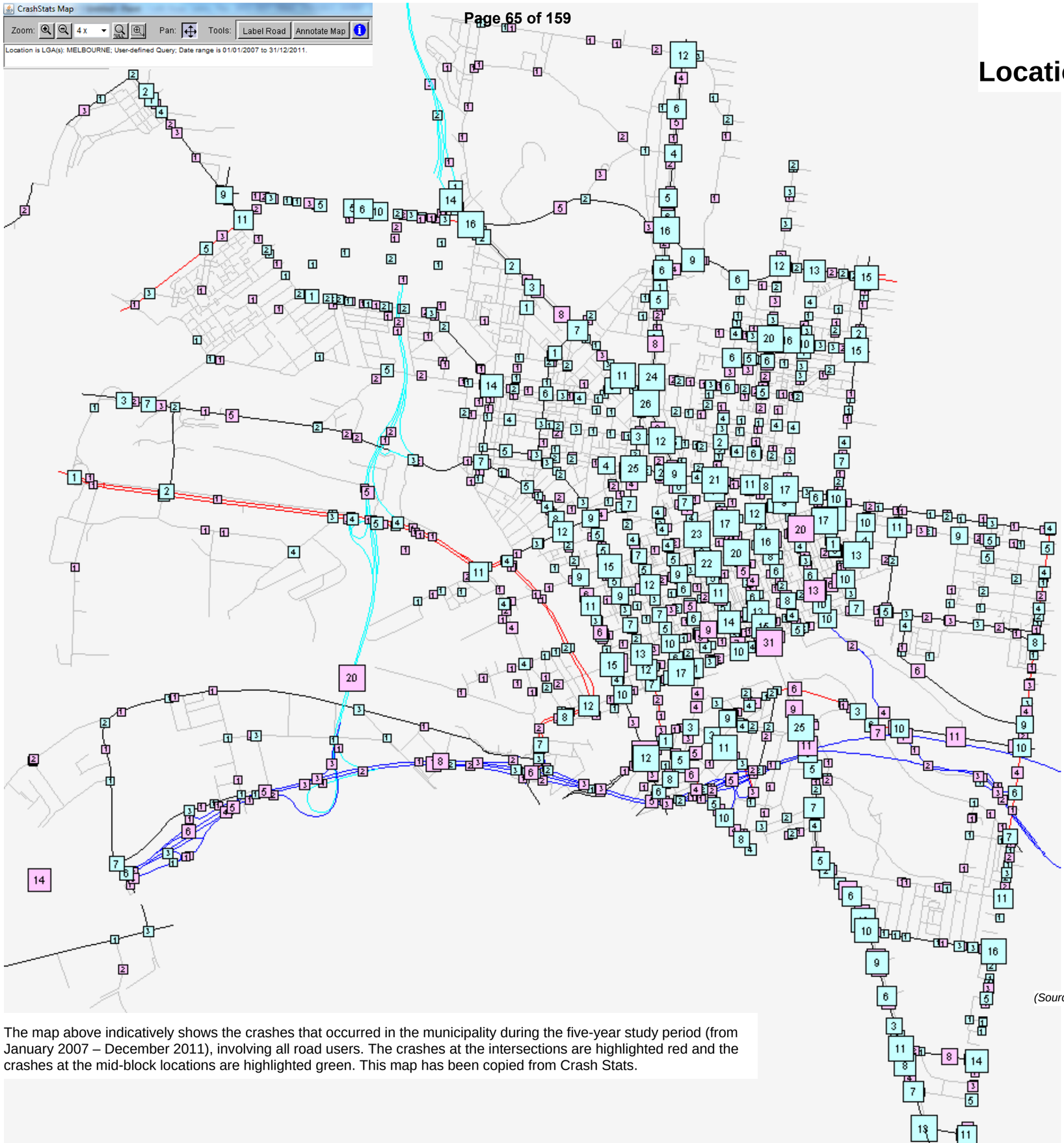
Number of Crashes by Crash Type

(continued from the previous page)

DCA No.	Crash Type	All Road Users	Car crashes	Pedestrian crashes	Bicycle crashes	Motorcycle crashes	Tram crashes	Bus crashes	Truck crashes	Taxi crashes
145	Reversing into traffic	11	7	0	1	4	0	1	2	2
146	Reversing into fixed object/parked vehicle	1	1	1	0	0	0	0	0	0
147	Vehicle strikes another while entering from driveway	51	50	0	22	10	1	0	5	5
148	Vehicle leaving footpath strikes vehicle on road	46	38	0	46	3	0	0	1	3
149	Other manoeuvring	10	9	2	1	1	1	0	2	1
150	Head on (overtaking)	1	1	0	1	0	1	0	0	0
151	Out of control (overtaking)	3	1	0	0	2	0	0	0	0
152	Pulling out (overtaking)	4	3	0	0	2	0	0	0	2
153	Cutting in (overtaking)	1	0	0	1	0	0	0	0	1
154	Pulling out rear end	0	0	0	0	0	0	0	0	0
159	Other overtaking manoeuvres	1	1	0	0	0	0	0	0	0
160	Vehicle strikes parked vehicle	48	40	5	19	5	0	1	6	4
161	Double parked	0	0	0	0	0	0	0	0	0
162	Accident/broken down	5	5	0	0	1	0	0	0	0
163	Vehicle strikes door of parked vehicle	270	204	1	256	10	1	2	9	55
164	Permanent obstruction on road	13	6	0	0	1	0	0	6	1
165	Temporary road-works	1	1	0	0	0	0	0	0	0
166	Struck object on road	8	2	0	1	5	0	0	0	0
167	Struck animal	0	0	0	0	0	0	0	0	0
169	Other on path	2	1	1	1	0	0	0	1	0
170	Off-road to left	10	3	0	5	4	0	0	0	1
171	Left off road into object/parked vehicle	83	69	3	8	6	0	2	4	4
172	Off-road to right	7	2	0	1	4	0	0	0	0
173	Right off road into object/parked vehicle	85	73	3	2	10	0	0	1	3
174	Out of control on road on straight	205	55	4	75	128	0	1	0	9
175	Off end of road	3	3	0	0	0	0	0	0	0
179	Other off straight	18	8	1	2	8	1	0	0	2
180	Off-road on right bend	1	0	0	0	1	0	0	0	0
181	Off right bend into object/vehicle	5	4	0	0	1	0	0	0	0
182	Off-road on left bend	0	0	0	0	0	0	0	0	0
183	Off left bend into object/vehicle	10	5	0	0	3	0	0	1	1
184	Out of control on road on bend	9	0	0	1	7	0	0	1	0
189	Other on curve	2	2	0	0	0	0	0	0	0
190	Fell in/from vehicle	33	16	5	1	2	6	4	0	8
191	Load struck vehicle	2	2	0	0	1	0	0	1	0
192	Struck train	0	0	0	0	0	0	0	0	0
193	Struck railway crossing furniture	0	0	0	0	0	0	0	0	0
194	Parked car run away	2	2	0	0	0	0	0	1	1
195	Other not classified above	5	1	1	2	1	1	0	1	0
199	Unknown/no details	3	1	0	1	0	1	0	0	0
	Total number of crashes	**4,189**	**3,285**	**960**	**1,108**	**673**	**164**	**55**	**265**	**543**

APPENDIX C

Locations of all crashes



(Source: 2007-2011 CrashStats)

The map above indicatively shows the crashes that occurred in the municipality during the five-year study period (from January 2007 – December 2011), involving all road users. The crashes at the intersections are highlighted red and the crashes at the mid-block locations are highlighted green. This map has been copied from Crash Stats.

Attachment 3
Agenda Item 6.4
Future Melbourne Committee
2 July 2013

Consultation Summary Paper
Road Safety Plan 2013-2017

Table of contents

1. Introduction 1
   - 1.1 The aim of the consultation process
   - 1.2 How the feedback was analysed
2. Consultation process 2
   - 2.1 The stakeholders
   - 2.2 Delivery of the consultation process
3. Government agencies and advocacy groups 5
   - 3.1 Key strategic issues
   - 3.2 Key strategic objectives
4. Business and community groups 7
   - 4.1 Key strategic issues
   - 4.2 Key strategic objectives
5. Wider community 9
   - 5.1 Key strategic issues
   - 5.2 Key strategic objectives
6. Consultation undertaken since April 2013 11
   - 6.1 Summary of the submission from the Independent Riders' Group (IRG), received on 20 May 2013 12
   - 6.2 Summary of the submission from the scooter rider/resident, received on 17 April 2013 13
   - 6.3 Summary of the submission from the Victorian Motorcycle Council (VMC), received on 20 May 2013 14
   - 6.4 Summary of the submission from the Victorian Scooter Riders Association (VSRA), received on 23 May 2013 16
   - 6.5 Summaries of the submissions from other key stakeholders
7 Summary and Conclusions 20
   - 7.1 Government agencies and advocacy groups
   - 7.2 Business and community groups
   - 7.3 The wider community
   - 7.4 Conclusions

1. Introduction

The City of Melbourne is developing its Road Safety Plan 2013-2017 (“the Plan”) with a focus on vulnerable road users (i.e. pedestrians, cyclists and motorcyclists). This paper presents the outcomes of the consultation process undertaken with a broad group of stakeholders, including Government agencies, advocacy groups, community and business groups, and the wider public.

1.1 The aim of the consultation process

The focus of the consultation process was to understand the broader community’s key strategic issues and objectives for the development of the Plan. Together with background research on crash statistics over the five year period between January 2007 – December 2011 (the latest data available), and on establishing the context for the City of Melbourne (e.g. the significant growth in pedestrians and cyclists, both as visitors and residents, and the increasing focus on people and place), the consultation process helped to set the strategic direction for the Plan.

1.2 How the feedback was analysed

This section summarises the method used to analyse the outcomes of the steering committee and wider stakeholder workshops, and the feedback received from the community engagement activities.

1.2.1 Community feedback

The feedback form enabled respondents to provide their input in an open-ended format, to the following questions:

1. What safety issues concern you most when you are travelling in the City of Melbourne?
2. What changes would you like to see to improve safety for vulnerable road users (walkers, cyclists and motorcyclists)?
3. What do you consider to be the top three priorities for the Road Safety Plan?

The responses were analysed as follows:

- The data was reviewed to ensure the feedback could be clearly interpreted;
- The responses were categorised; and
- The responses were reviewed for key themes and patterns in relation to strategic issues and objectives.

As the feedback from the community was on an individual basis, the frequency of issues and objectives raised have been noted to establish a priority.

It should also be noted that feedback received on the role of motor cars has been considered and is integrated as it related to the vulnerable road user groups.

1.2.2 Workshop outcomes

The outcomes of this process were documented and first organised into strategic issues and objectives by vulnerable road user group (i.e. pedestrians, cyclists and motorcyclists). Any specific proposed actions or measures made during the workshop were documented but excluded from this document. These suggestions were taken into consideration during the development of the actions for the Plan.

The next step was to organise the outcomes into a set of key categories, with consideration to the Safe System approach to road safety[1] , as follows:

Table 1: Categories for reviewing consultation feedback

Category	Description	Typical Issue	Typical Objective
Behavioural (***Safer road users***)	Issues and objectives where the emphasis is on the behaviour of one or more road user groups.	There is a low level of awareness among all road users of the environment in which they are moving and of each other.	Place a greater emphasis on road user behaviour, particularly the level of awareness of the needs of vulnerable road users.
Regulatory (***Safer road users***)	Issues and objectives where the emphasis is on existing road rules or regulations that influence road safety.	The 40 km/h speed limit was introduced in the Hoddle Grid in December 2012.	Explore the expansion of the 40 km/h speed limit to include the Queen Victoria Market environs.
Environmental (***Safer roads and roadsides***)	Issues and objectives where the emphasis is on the physical or built environment (i.e. the road or street).	Pedestrian movement is hampered by the limited footpath widths.	Develop urban design guidelines that support "streets for people".
General	All other issues and objectives for road safety.	There is a lack of coordination with and among adjoining municipalities around road safety.	Advocate, through leadership, for greater coordination of road safety with the adjoining municipalities, through IMAP.

The workshop outcomes were developed in a collaborative manner so as to arrive at a consensus of the key issues and objectives. Written submissions were also received from a number of the Steering Committee members. This input has been reviewed and considered in the analysis of the outcomes of the steering committee workshop.

[1] The Safe System approach seeks to design and build a total transport system that, in the event of a crash, ensures that the physical forces imposed on individuals are within tolerable levels so as to prevent fatality and minimise injury. It focuses on three core elements: safer road users, safer vehicles and safer roads and roadsides.

2. Consultation process

The consultation process was designed to be as inclusive and accessible as possible. A wide variety of mediums were used to maximise the reach of the process in the community. This chapter presents an overview of the consultation process.

2.1 The stakeholders

The Stakeholders were divided into three broad categories:

Category	Stakeholders	Participation
Steering Committee	Government agencies and advocacy groups with a key role in supporting road safety (e.g. VicRoads, Bicycle Network Victoria and Victoria Walks).	The steering committee played a key role in helping to shape the strategic direction of the Plan. As key collaborators in the delivery of road safety outcomes, their participation was critical to the long term success of the Plan.
Wider Stakeholders	Mainly representatives of businesses and community groups and organisations from across the City (e.g. The Chamber of Commerce, Universities, resident associations and disability groups). Some officers from State Government agencies and and riders, and their specific needs. represented.	The wider stakeholders participated in a workshop to identify key strategic issues and objectives for road safety.
Wider Community	The general public, including residents, visitors, local businesses and any person or organisation with an interest or stake in road safety in the City.	A variety of mediums were used to enable the general public to engage in the consultation process, including the internet, social media and a community talk shop held on Saturday 24 November 2012.
Representatives of Motorcycle Groups	A meeting was held with the representatives of the motorcycle groups on 22 May 2013 to discuss the written submissions.	The majority of the issues raised in the submissions have been addressed or incorporated in the Plan.

Figure 1: Newspaper advertisement below was placed in The Age on Friday 16 November and in the Melbourne Leader on Monday 19 November 2012.

Steering Committee and Wider Group of Stakeholders

Groups that participated on the Steering Committee[1]

VicRoads
Public Transport Victoria
Department of Transport
Transport Accident Commission
Victoria Police
Metro Trains
Yarra Trams
Victorian Taxi Association
Independent Riders' Group
Bicycle Network Victoria
Melbourne BUG
Motorcycle Riders Association (Victoria)
Road Safety Action Group Inner Melbourne
Victoria Walks
Victoria Scooter Riders Association
Cycling Promotion Fund
Property Council of Australia
Victorian Transport Association
Royal Automobile Club of Victoria

[1] *The Public Transport Users Association (PTUA) was included on the Steering Committee & was invited to every meeting of the Committee. While regular updates (including all previous versions of the Plan) were emailed to the PTUA during the development of the Plan, there were no PTUA representatives at any of the meetings & there was no feedback/response received.*

2.2 Delivery of the consultation process

The table below presents the various activities undertaken during the consultation process to engage the community and other key stakeholders in a discussion about road safety in the City of Melbourne.

Activities	Description	Where / Medium	When	Participation
Steering committee workshop	A 2-hour facilitated workshop mapping the key strategic issues and objectives for road safety.	Workshop	2 October 2012	35 participants
Wider stakeholder workshop	A 2-hour facilitated workshop mapping the key strategic issues and objectives for road safety.	Workshop	21 November 2012	25 participants
City of Melbourne corporate website	Comprehensive information about the plan scope, safety information and opportunities for the general public to provide input by email, in writing and through an online feedback form.	Online	November 2012	n/a
The Age and the Melbourne Leader newspaper advertisements	An advert (See Figure 1 on previous page) was placed in key local newspapers promoting the development of the road safety plan; notifying the public of the community talk shop, and providing details of the ways in which the community and other stakeholders could provide input.	Print	Placed in The Age on Friday 16 November and in the Melbourne Leader on Monday 19 November 2012	n/a
Facebook and Twitter	Various Facebook and Twitter accounts were used to promote the options for the general public and stakeholders to provide input on the development of the plan.	Social Media	November 2012	n/a
Community Talk Shop	A day long community talk shop was run to engage road users in a discussion about key issues and objectives for road safety.	On Swanston Street	24 November 2012	20 detailed discussions & 200 flyers distributed
Online feedback form	A web-based feedback form was made available on the City of Melbourne website and promoted through several mediums.	Online	November 2012	220 responses
Written submissions	An email address and postal address were provided to enable individuals and organisations to make written submission.	Online	November 2012	16 submissions were received
Email to stakeholders	Various stakeholders were approached and agreed to promote the various ways to engage in the process via their own websites, through their membership databases / newsletters and by email.	Membership databases	November 2012	n/a

3. Government agencies and advocacy groups

This chapter presents the outcomes of the steering committee workshop held on 2 October 2012. During the workshop, the participants worked in a collaborative manner to map the key strategic issues and objectives of the Plan.

3.1 Key strategic issues

	Issues for pedestrians	Issues for cyclists	Issues for motorcyclists
Behavioural ***(Safer road users)***	• There is a low level of awareness among all road users of the environment in which they are moving and of each other. • Inconsiderate or inappropriate parking of motorcycles on footpaths creates a physical barrier to pedestrian movement and access. • The low time allocation for pedestrians at signalised crossings is a significant barrier affecting permeability and encouraging risky behaviour, especially at night.	• Lack of understanding of and coexistence among, all users of shared paths. • Illegal parking in bicycle lanes is a significant problem for cyclists. • Cars performing hook turns often wait in bicycle lanes, blocking the movement of cyclists. • Existing signage design is largely ineffective in addressing behavioural issues among all road users.	• Lack of enforcement of driver distraction (e.g. mobile phone use). • Lack of awareness among cyclists and motorcyclists of each other's needs. • Lack of awareness among drivers of the appropriate gap they should leave between their vehicles and motorcycles. • Lack of awareness among all road users of each other's needs.
Regulatory ***(Safer road users)***	• High traffic speed is hazardous for pedestrians. • Inadequate application of the disability discrimination regulations.	None noted.	None noted.
Environmental ***(Safer roads and roadsides)***	• Footpath capacity is becoming increasingly strained, especially at the main rail stations where pedestrians are spilling out onto the roadway. • Lack of permeability for pedestrians of blocks in the central city, specifically mid-block when trying to cross the street. • Traffic signals are currently designed to support the movement of traffic at the expense of pedestrians. • The boulevards into the central city lack the kind of amenity that supports and encourages walking. • Pedestrian volumes in the central city (e.g. Flemington Road, Royal Parade and St Kilda Road) are increasing significantly but there is a lack of priority for pedestrians relatively to traffic. • Entries/exits to/from car parks cause safety concerns for pedestrians. • Pedestrian movement is hampered by the current traffic signal system which favours traffic movement. • The laneways in the central city are primarily pedestrian environments but are often dominated by traffic (e.g. Gresham Street). • Poor level of safe connectivity for pedestrian access to public transport (tram, rail and bus) stations and stops. • Function of some streets (e.g. King Street) as primarily for traffic flow and movement conflicts with key pedestrian movements.	• The current design of many platform tram stops is creating conflict between pedestrians and cyclists, as well as other road users. • Insufficient clearance time for cyclists at traffic signals. • Lack of legibility in terms of way-finding for cyclists. • The management of road works often does not consider cyclists, creating random barriers for movement. • The function and use of shared paths needs to be addressed at a site-specific level (e.g. security and lighting). • Lack of awareness of cyclists in narrow streets or laneways with high pedestrian volumes. • Footpath capacity problems where pedestrians spill out onto the roadway, present dangerous conditions for cyclists travelling close to the kerb. • There are many locations where it is unsafe to mix cyclists and traffic.	• Although motorcycles are a more sustainable transport option than cars, they lack a safe environment. • Lack of attention to the needs of motorcyclists in the design of the street environment. • Little consideration given to the use of 'dead space' (on and off-street) for additional motorcycle parking. • Inadequate end-of-trip facilities in existing and new developments, and no obligations to include them in new developments, discourages riders from wearing protective clothing. • Lack of appropriate motorcycle parking in the central city. • The surface of and adjacent to tram tracks presents dangerous conditions for motorcyclists. • Lack of consideration for the needs of motorcyclists in the management of road works.
General	• While the function of the central city is rapidly changing from mono-functional to multi-functional or mixed-use, where people and place take precedence over cars and traffic, key policies have not yet been aligned to support these changes.	None noted.	• Lack of engagement with motorcycle advocacy groups by the Government agencies. • Motorbike shops are an underutilised touch point for reaching motorcyclists regarding road safety. • Lack of coordination with and among adjoining municipalities around road safety.

3.2 Key strategic objectives

	Pedestrians	Cyclists	Motorcyclists
Behavioural ***(Safer road users)***	• Place greater emphasis on road user behaviour, particularly the level of awareness of the needs of vulnerable road users. • Reduce the incidence of cars illegally passing stationary trams.	• Encourage greater participation in cycling to improve safety through the "Safety in Numbers" effect.	• Foster a culture of respect among all road users.
Regulatory ***(Safer road users)***	• Reduce speed limits.	• Reduce speed limits.	• Enhance enforcement of driver distraction, particularly mobile phone use.
Environmental ***(Safer roads and roadsides)***	• Develop urban design guidelines that support "streets for people". • Improve the amenity of key pedestrian routes, especially those connecting with key destinations (e.g. public transport nodes or Federation Square). • Provide more road space for pedestrians. • Give greater consideration to the door-to-door pedestrian journeys in planning. • Improve safe access to public transport, particularly tram stops, with a strategic focus on the increasing volume of pedestrians coming into and living in the central city.	• Develop urban design guidelines that support "streets for people", with appropriate consideration for the needs of all cyclists, particularly the young, elderly and families. • Increase the provision of appropriately designed separated bicycle lanes.	• Mandate appropriate end-of-trip facilities for motorcyclists in new developments. • Ensure greater consideration of the needs of motorcyclists in the management of road works. • Increase formal motorcycle parking, both on and off-street, to provide a safe and secure environment for motorcyclists. • Provide better parking and storage facilities at public transport interchanges and stations.
General	• Reduce the dominance of motor vehicle traffic in the central city. • Improve the monitoring and evaluation of walking. • Reduce the severity and frequency of crashes involving pedestrians. • Make pedestrians a clear priority in the central city.	• Retain and expand the current bike share scheme, and remove existing barriers to use.	• Reduce the dominance of car and truck traffic in the central city. • Reduce the severity and frequency of crashes involving motorcyclists. • Improve the collection and assessment of crash data. • Ensure a more equitable distribution of funding to improve motorcycle safety. • Advocate, through leadership, for greater coordination of road safety among adjoining municipalities.

4. Business and community groups

This chapter presents the outcomes of the wider stakeholder workshop held on 21 November 2012, to identify the key strategic issues and objectives of the Plan.

4.1 Key strategic issues

Category	Issues for pedestrians	Issues for cyclists	Issues for motorcyclists
Behavioural ***(Safer road users)***	• Lack of courtesy in shared spaces and on shared paths. • Motorists parking on footpaths, particularly in residential and local streets. • Cyclists not using bells or giving vocal alerts in shared spaces and on shared paths. • Pedestrians not waiting on footpaths or in designated areas until trams are stationary and doors have opened, obstructing cyclists (e.g. Swanston St and Docklands). • Lack of awareness of the Road Rules among all users, particularly overseas visitors. • Inconsiderate motorcycle parking on footpaths is a significant barrier for pedestrians, especially those with visual impairments.	• Lack of understanding of the needs of cyclists among other road users. • Speed is a dominant feature of cycling in Melbourne but not in cities with a strong culture of cycling.	• Drivers not keeping a safe distance from motorcyclists. • Drivers not looking out or paying attention to motorcyclists. • Motorcyclists need to ride more defensively and take fewer risks. • Car-dooring is an unacknowledged problem for motorcyclists.
Regulatory ***(Safer road users)***	• High traffic speed is hazardous for pedestrians.	• Lack of enforcement of Road Rules that support cycling. • High traffic speed is hazardous for cyclists.	• Protective clothing for motorcyclists is not mandatory. • The rules for motorcycle parking are unclear.
Environmental ***(Safer roads and roadsides)***	• Lack of footpaths in some industrial areas (e.g. Kensington). • Many road crossings are long and difficult to cross in time, especially for the visually and physically impaired. • Various forms of permanent and temporary footpath clutter (e.g. tables, chairs, advertising and waste bins) cause significant barriers for pedestrians, particularly the disabled. • Environments not designed to encourage people to walk or cycle, particularly for people to stay in, meet and socialise. • Lack of audio-tactile facilities at some traffic signals, which are needed to support people with disabilities.	• Lack of connectivity of bicycle lanes across the City. • Limited road space in some locations for additional bicycle infrastructure – how should space be allocated / prioritised? • Lack of bicycle parking, with current standards for design and implementation further limiting supply. • Need to mandate bicycle parking, storage and changing facilities for new developments. • Insufficient consideration of cyclists' needs (particularly for female cyclists), when planning and delivering end-of-trip facilities, in terms of personal safety and security. • The road environment is not legible for all road users, reducting safety for cyclists. • Traffic signals are not designed to support the movement of cyclists. • Pedestrians and cyclists should have more priority at crossings.	None noted.
General	None noted.	None noted.	• Lack of appreciation of the diversity of motorcycle types and riders, and their specific needs.

4.2 Key strategic objectives

Category	Objectives for pedestrians	Objectives for cyclists	Objectives for motorcyclists
Behavioural ***(Safer road users)***	• Educate all road users when new streetscapes and urban environments are introduced. • Support programs to get children walking and cycling to school. • Normalise walking as a main mode of travel.	• Improve coexistence among all road users.	• Improve the awareness of the needs of the motorcyclists among other road users. • Improve coexistence among all road users. • Improve education of motorcyclists on how to ride in traffic.
Regulatory ***(Safer road users)***	• Give pedestrians priority in the central city. • Reduce speed limits. • Mandate safe driving, parking and associated practices for deliveries. • Introduce a congestion tax in the central city to reduce traffic dominance, congestion and pollution.	• Reduce speed limits. • Increase enforcement of speeding. • Reduce and enforce speed in shared areas and on shared paths.	None noted.
Environmental ***(Safer roads and roadsides)***	• Design new areas (e.g. Fishermans Bend) as models of best practice pedestrian-friendly environments. • Provide more points in the central city to drop off people with mobility impairments. • Give pedestrians more time at signalised crossings. • Give greater consideration to the needs of the visually and physically impaired when designing road environments.	• Improve provisions for visually impaired in the vicinity of cycling infrastructure. • Provide a cycling network of connected routes linking key origins and destinations. • Develop design guidelines.	• Provide dedicated space for motorcyclists.
General	• Ensure that pedestrians are the top priority for road safety.	• Plan for the growth in electric bicycles.	None noted.

5. Wider Community

This chapter presents the input received from the wider community through the online feedback form and from the community talk shop on 24 November 2012.

5.1 Key strategic issues

Category	Issues for pedestrians	No	Issues for cyclists	No	Issues for motorcyclists	No
Behavioural ***(Safer road users)***	Cyclists disobeying road rules (e.g. running red lights).	34	Car-dooring poses a high risk to cyclists.	25	Low level of awareness of motorcyclists among drivers.	11
	Walking against red traffic signals by pedestrians.	30	Drivers unaware of the presence of cyclists.	18	Motorcyclists weaving in and out of traffic lanes.	9
	Cyclists riding on footpaths.	19	Bicycle lanes ending abruptly, particularly at intersections, result in cyclists having to merge with traffic.	16	Motorcyclists engaging in risk-taking behaviour and disobeying Road Rules.	5
	Cars failing to give way to pedestrians, particularly at intersections.	11	Motorcycles and cars using bike lanes pose a hazard to cyclists.	15	Drivers not checking blind spots before changing lanes.	4
	Speeding cyclists and motorcyclists.	11	Cars queuing within and blocking intersections obstruct cyclists.	11	Drivers performing U-turns or pulling out without giving way.	1
	Pedestrians crossing streets when distracted by mobile phones.	8	Speeding traffic.	10	Drivers opening doors without due care and attention.	1
	Cars running red lights.	7	Cars turning and changing lanes into the path of cyclists without indicating.	10	Drivers running red lights.	1
	Cars queuing within and blocking intersections, resulting in difficulties for pedestrians crossing streets.	4	Pedestrians stepping into bike lanes cause cyclists to swerve into traffic.	5	Drivers using mobile phones.	1
	Cars and bicycles failing to stop behind stationary trams.	2	Pedestrians obstructing bikes on shared paths.	2	Motorcyclists riding without protective clothing and lights.	1
	Intoxicated pedestrians jay-walking, particularly after-hours and on weekends in the central city.	2			Distracted and jay-walking pedestrians.	1
	Cars exiting off-street car parks failing to give way to pedestrians.	1				
	Pedestrians running across the road to tram safety zones.	1				
Regulatory ***(Safer road users)***	High traffic speed.	10	None noted.	0	None noted.	0
Environmental ***(Safer roads and roadsides)***	Insufficient time allocated at traffic signals to enable pedestrians to cross encourages Jay-walking.	23	Cars parking in bike lanes force cyclists to merge with traffic.	10	Poor road condition poses a hazard.	2
	Significant pedestrian congestion exists on many footpaths in the central city, resulting in pedestrians spilling out onto the road.	10	Bike lanes that are resulting in car-dooring.	6	Slippery road surfaces are hazardous when wet (e.g. tram tracks, metal grates and line marking paint).	1
	Difficult in crossing streets to access and egress tram stops.	2	Tram tracks, metal grates and pit covers are slippery in the wet.	4		
	Difficult in crossing streets at roundabouts.	1	Road works signage placed in bike lanes creates an obstruction.	4		
			Uneven road surfaces pose a hazard, including pot holes, cracks, debris, rubbish, reflective markers and uneven kerb edges.	3		
			Cyclists have difficulties negotiating hook turns.	2		
			Negative attitudes and driver aggression towards cyclists.	1		
			Cyclists having to share the road with traffic, without the provision of bicycle lanes, are exposed to significant risk of collision.	1		
			Delivery and servicing vehicles pulling into and out of loading zones and bays without indicating.	1		
			Motorists have difficulties seeing cyclists, particularly at night.	1		
			Trucks in narrow traffic lanes ‘squeezing out’ cyclists.	1		
			Cyclists experience difficulties in negotiating roundabouts.	1		
			Traffic signal timing often does not allow cyclists to cross intersections, leaving them stranded.	1		
			Cars stopping in bike boxes at intersections.	1		

5.2 Key strategic objectives

Category	Objectives for pedestrians	No	Objectives for cyclists	No	Objectives for motorcyclists	No
Behavioural ***(Safer road users)***	Design behavioural change programs targeting inconsiderate behaviour of all road users.	29	Design behavioural change programs targeting inconsiderate behaviour of all road users.	36	Design behavioural change programs targeting inconsiderate behaviour of all road users.	24
Regulatory ***(Safer road users)***	Reduce speed limits.	39	Reduce speed limits.	3	Permit motorcycles to use bus lanes.	2
	Ban cars and trucks from the central city.	9	Inspect road works signage to ensure that it does not block footpaths or bicycle lanes.	2	Legalise filtering by motorcyclists to reduce congestion (currently under consideration).	1
	Permit cyclists to ride without helmets to encourage cycling.	2	Place greater vehicle-based restrictions on P-platers.	1	Provide greater Police presence to enforce Road Rules.	1
	Provide greater Police presence to enforce Road Rules.	2			Reduce speed limits.	1
Environmental ***(Safer roads and roadsides)***	Improve pedestrian infrastructure (including footpath surfaces).	22	Provide more and better maintained bicycle lanes (including separated lanes) with better connectivity, including key north-south and east-west routes.	66	Undertake measures to discourage traffic.	11
	Reduce waiting times for pedestrians at traffic signals.	5	Undertake measures to discourage traffic.	17	Provide improved and better coordinated public transport infrastructure.	7
	Provide more pedestrian-only spaces.	6	Provide improved and better coordinated public transport infrastructure.	6	Provide better lighting along park roads.	1
	Improve public transport infrastructure.	3	Remove on-street car parking, either permanently in peak periods, to facilitate cycling.	4	Provide improved guidance to off-street car parks, to reduce unnecessary vehicle circulation and reduce traffic.	1
	Provide more pedestrian-only space.	3	Provide bicycle priority at traffic signals, enabling cyclists to enter intersections ahead of traffic.	3		
	Provide pedestrian-only phases at traffic signals.	3	Better accommodate bicycles on buses, trams and trains.	3		
	Reduce pedestrian waiting times at traffic signals.	2	Implement improved traffic management plans at road works sites, to reduce obstruction to pedestrians and cyclists while minimising traffic congestion.	2		
	Increase the duration of pedestrian walk phase at traffic signals.	2	Provide more on-street bicycle parking.	2		
	Inspected road works signage to ensure that it doesn't block footpaths.	2	Improve safety around tram stops.	2		
	Address locations where pedestrian volumes exceed footpath capacity.	1	Improve the level of street lighting.	1		
	Improve the level of street lighting.	1	Improve visibility at pedestrian crossings for cyclists.	1		
	Address Blackspot accident sites.	1	Widen shared paths, to minimise conflict between pedestrians and cyclists.	1		
	Kept footpaths clear of obstructions.	1				
	Widen tram stops to accommodate passengers.	1				
General	Reduce traffic volumes.	7	Encourage residents to live in the central city, to enhance the presence of pedestrians in streets.	1	Encourage motorcycling in the central city.	3
	Strategic focus is required to prioritise walking, cycling and public transport over vehicular traffic.	3	Encourage employers to promote sustainable transport modes to staff.	1		
			Strategic focus is needed to prioritise walking, cycling and public transport over vehicular traffic.	1	Strategic focus is required to prioritise walking, cycling, motorcycling and public transport over cars and trucks.	1
			Integrate cycling as a key part of the wider transport network.	1		

6. Consultation undertaken since April 2013

6.1 Summary of the submission from the Independent Riders' Group (IRG), received on 20 May 2013

	Issues Raised	Actions already in the previous version of the Plan / Comments	Additional/amended actions discussed at the meeting on 22 May 2013	Outcomes of the discussion at the meeting on 22 May 2013 & further comments
1	The Plan should commit CoM, in consultation with stakeholders, to producing a PTW plan similar to the Bicycle Plan 2012/16, which would give direction & definition to road safety initiatives for riders & promote a city that is fair to all road users. It would also make the City more "liveable".		Additional action: "Develop a Motorcycle Plan, similar to the Bicycle Plan 2012/16".	No further action is required with regard to this issue ***
2	The Plan should commit CoM to on-going consultation with stakeholders through the Motorcycles in Melbourne Committee & other systems. Consultation is in itself a road safety tool.	Such consultation is currently being undertaken via the Motorcycles in the City of Melbourne Committee.	Additional actions: "Continue to undertake ongoing consultation with motorcycle advocacy groups regarding safety/amenity issues, via the Motorcycles in the City of Melbourne Committee".	No further action is required with regard to this issue ***
3	Parking facilities for PTWs fall into 3 categories (footpath, on-street & off-street). The Plan should recognise each of these & include providing more on-street & off-street parking. It should commit to a budget/program to advertise & promote these facilities. The City's bike parking area under the City Square is excellent value for riders but most people do not know it exists. The IRG would strongly oppose any change to footpath PTW parking like bans, time limits or fees.	Action M3 proposes to "Maintain a database of motorcycle parking across the municipality & monitor utilisation, with the aim of supporting future demand". Action R14 proposes to "Investigate amendments to the MPS to increase & strengthen the requirements to provide motorcycle parking as a proportion of car parking in new developments". Action M1 proposes to "Ensure that needs of motorcyclists are considered & provided for in new developments (e.g. appropriate parking facilities & safe access/egress to parking) – explore motorcycle parking rates for new developments". Action M3 proposes to "Maximise the use of dead space in off-street car parks for appropriate motorcycle parking".	Additional action: "Explore opportunities to increase the level of motorcycle parking across the municipality". Amended actions: "Develop Melbourne Planning Scheme (MPS) amendments to - a) Increase & strengthen the requirements to provide motorcycle parking in new developments (even when car parking is not required); b) Ensure that needs of motorcyclists are considered & provided for in new developments (e.g. appropriate parking facilities & safe access/egress to parking), explore motorcycle parking rates for new developments; c) Require the provision of lockers for protective clothing, as part of the provision for motorcycle parking in new developments".	No further action is required with regard to this issue ***
4	Regulations for building projects similar to those that make developers provide facilities for cyclists should require planning permit applicants to provide facilities for PTWs. This is a road safety initiative. City workers, particularly in the warmer months, working in retail/offices are discouraged from wearing appropriate/expensive protective clothing if there is no secure place to leave their helmet, jacket, gloves, boots etc. The Plan should commit CoM to providing safe off-street parking with lockers for protective clothing.	As above.	As above.	No further action is required with regard to this issue ***
5	PTWs should be encouraged to filter through traffic. Traffic filtering exists. It is the safest way to travel through heavy traffic in urban areas. It can be made safer if car drivers are educated to see the benefits to them. Cyclists are already encouraged to filter.	**	Additional action: "Hold discussions with the State Government, to consider a change in the road rules to permit filtering by motorcycles".	It was agreed at the meeting to amend the additional action as follows: "Hold discussions with the State Government **and community groups,** to consider a change in the road rules to permit filtering by motorcycles".
6	PTWs should be permitted to use bus lanes in most situations. A trial was conducted by VicRoads in 2011/12 in the inbound bus lane in Hoddle St. It was a success. Bus lanes are safer for PTWs in heavy traffic. VicRoads is delaying permitting PTWs to use bus lanes. VicRoads permitted cyclists to use bus lanes in up to 70 kph zones, even in hilly suburbs, without a trial/study. Most bus lanes are outside CoM but CoM can influence other councils/government departments to change policies/rules.	Action R10 proposed to "Explore allowing motorcycles to use bus lanes, where appropriate. The Victorian Government is currently developing a policy on allowing motorcycles to use bus lanes, which is expected to be available for public consultation in 2013. The CoM could contribute to & provide input to the development of this policy". **		It was agreed at the meeting to amend Action R10 as follows: "Explore opportunities to allow motorcycles to use bus lanes, where appropriate. The Victorian Government is currently developing a policy on allowing motorcycles to use bus lanes, which is expected to be available for public consultation in 2013. The CoM **will** contribute to & provide input to the development of this policy".
7	The Plan must set out initiatives for a safer road environment for PTWs. Banning steel plates over road works is an obvious place to start. The build up of paint, oil & debris in/between lanes & at intersections should be monitored & remedied.	Action M1 proposes to "Design with motorcycles in mind; Make the needs of motorcyclists a critical aspect of the design process of the road environment; Ensure that CoM officers & external consultants are appropriately trained to design for the needs of motorcyclists; Consider the needs of motorcyclists when implementing traffic calming measures"; Action M2 proposes to "Audit roads for motorcycle safety; Undertake road safety audits of all roads with 3 or more motorcycle crashes in the last 5 years – include motorcycle rider representatives in the audits; Identify issues associated with lane merging over short distances, skid resistance, surface quality & maintenance of line marking/signage; Prioritise the recommendations and develop a works program to be delivered by 2017; Develop Motorcycle Blackspot app in collaboration with VicRoads & IMAP, to enable motorcyclists to report site -specific road safety issues"; Action R5 proposes to: "Investigate the feasibility of mandating the use of skid-resistant metal plate covers at all road works sites"; Action R7 proposes to: "Enhance the provisions for vulnerable road users during road/construction works".	Additional actions: "Explore opportunities to replace existing permanent slippery metal pit covers with skid-resistant concrete covers"; "Ensure that the safety requirements of motorcyclists are considered as part of the design process for the placement of all on-road obstructions, including kerbing, traffic islands, RRPM's (raised bars) & crash barriers"; "Explore the use of skid-resistant line marking at appropriate locations".	No further action is required with regard to this issue ***

8	Driver error causes most vulnerable road user casualties. The Plan should include PTWs with pedestrians & bicyclists in all education campaigns targeting car drivers.	Action R3 proposes to "Advocate for increased enforcement of road rules to support vulnerable road user; work with Police to increase enforcement of speeding, running red lights, failing to give way to pedestrians, cyclists & motorcyclists, car dooring, etc.". Action B1 proposes to "Develop behavioural programs to increase awareness, care & attention by motorists towards vulnerable road users; reduce driver distraction & car dooring; improve cyclists' & drivers' awareness of road safety issues (awareness of blind spots on trucks); increase the level of individual responsibility for road safety among all users". **		It was agreed at the meeting to amend Action B1 as follows: "Develop behavioural programs to increase awareness, care & attention by motorists towards vulnerable road users; reduce driver distraction & car dooring; improve cyclists', **motorcyclists'** & drivers' awareness of road safety issues (awareness of blind spots on trucks); increase the level of individual responsibility for road safety among all users".
9	PTWs come to the City to shop & for entertainment. Recognising that riders have a dollar value to CoM in the plan is a road safety feature in itself. The famous Elizabeth St precinct is the ideal place to run bike safety campaigns.	A number of actions in the Plan recommend publicity & promotion campaigns of motorcycle safety issues.	Additional actions: "Explore opportunities to promote road safety issues affecting motorcyclists at major events (e.g. Phillip Island Gran Prix)"; "Work with the Elizabeth St motorcycle precinct to promote motorcycle safety issues"; "Encourage motorcycling as a sustainable form of transport"; "Work with the motorcycle groups to organise new activities for motorcyclists in the City (e.g. ride to work day), with a view to promoting motorcycling".	No further action is required with regard to this issue ***
10	The plan should commit to road safety promotions such as an annual RIDE TO WORK DAY & to returning the annual TOY RUN to the City.	As above.	As above.	No further action is required with regard to this issue ***

****** This is a State Government issue.
*** There was general agreement at the meeting that the actions that have already been proposed and/or the additional/amended actions (outlined in the two columns to the left), adequately address the related issue raised. No further actions are required.

Abbreviations used:

PTW - refers to Powered Two Wheelers, i.e. motorcycles, scooters, etc.
CoM - City of Melbourne
City - Refers to the municipality of the City of Melbourne
IRG - Independent Riders' Group
VMC - Victorian Motorcycle Council
VSRA - Victorian Scooter Riders Association

6.2 Summary of the submission from the scooter rider/resident, received on 17 April 2013

(name withheld due to privacy considerations)

Issue Raised		Actions already in the previous version of the Plan / Comments	Additional/amended actions discussed at the meeting on 22 May 2013	Outcomes of the discussion at the meeting on 22 May 2013 & further comments
1	CoM should publish on line in full all submissions made by stakeholders, not just an edited summary. Such a practice is standard in the consideration of State Parliamentary Committee submissions & allows all members of the public to view the issues raided whilst maintaining public confidence in the consultation process.	It is intended to include the submissions from stakeholders (if appropriate, subject to permission being given by the submitters), as part of the FMC report in July.		No further action is required with regard to this issue ***
2	Council should provide a process & further opportunity for public debate on the use and development of the City's Road Network.	This matter will be considered outside the scope of the Plan.		No further action is required with regard to this issue ***
3	CoM should seek input & submissions from Ambulance & MFB as to the impact of road safety plans, proposals & traffic lane restrictions. I note with great concern that the Ambulance & MFB were not included in the initial Road Safety consultation.	Consultation with Ambulance Victoria & MFB has been undertaken regarding the Plan. Their input will been included in the Plan.		No further action is required with regard to this issue ***
4	Motorcyclists are at an equal/greater safety risk to cyclists. The proposals put forward don't address motorcycle safety issues. The ill-considered establishment of "Bike" lanes that exclude access to PTWs & associated displacement & congestion that results compounds the safety risk. Further consideration needs to be given as to the opportunities of sharing bike lanes. Many lanes are underutilized & could be used to facilitate safe travel environment for motorcyclists. These modes of transport are not exclusive & can safely coexist under many circumstances & appropriate regulatory guidelines/protocols. Not all bicycle paths are suited for sharing but many are. Council needs to discuss & identify those lanes were both modes of transport can be accommodated.	There are a number of actions in the Plan that are designed to enhance the safety of motorcyclists. The State Government is unlikely to allow motorcycles to use bike lanes/paths, due to safety concerns. **		This matter is further discussed in response to Issue 7 in the VMC submission below.

5	Council should consider as a matter of priority alternative routes for cyclist pathways throughout the city with preference given to less congested roads/laneways. Consider for lane reductions should only be given as a last resort & only after extensive consultation with all stakeholders & public approval.	The Plan aims to enhance the safety of all vulnerable road users. The provision of bicycle lanes has been identified as an important road safety measure to improve the safety of cyclists. Therefore, bicycle lanes will continue to be installed where appropriate, with safety of all road users being the most important consideration.		It was agreed at the meeting to propose the additional action to: “Ensure that the safety requirements of motorcyclists are considered as part of the design process for the installation of bicycle lanes".
6	The provision of “Lane Filtering” options at inner city intersections that allow motorcycles to move to the front of the intersection to a safe zone & take advantage of a controlled early start as is currently afforded to bicyclists riders. The Transport Strategy plan & road network design needs to be reviewed to take into consideration the needs of all road users.	**	As per Issue 5 of the IRG submission.	As per Issue 5 of the IRG submission.
7	Shared Bus Lanes (Higher priority).	Action R10 proposed to “Explore allowing motorcycles to use bus lanes, where appropriate. The Victorian Government is currently developing a policy on allowing motorcycles to use bus lanes, which is expected to be available for public consultation in 2013. The CoM could contribute to & provide input to the development of this policy". **	As per Issue 6 of the IRG submission.	As per Issue 6 of the IRG submission.
8	Shared “Bike” paths (Based on a Bike Lane category system – High Priority).	As per point 4 above. **		As per point 4 above.
9	Bicycle paths to be encouraged to use smaller less congested streets not major road feeders.	As per point 5 above.		As per point 5 above.
10	Lane Filtering options at intersections (High Priority).	**	As per Issue 5 of the IRG submission.	As per Issue 5 of the IRG submission.
11	Turn left at any time with care rights to reduce congestion & increase traffic flow (High Priority).	The State Government is unlikely to allow motorcycles to turn left at any time with care (at traffic signals) due to safety concerns. **		Given the high pedestrian volumes in the City & the high number of collisions between pedestrians & motor vehicles, it would not be safe to allow PTW's & other vehicles to turn left at traffic signals at any time with care.
12	Road Line Paint that is not slippery (Medium Priority).		Additional action: “Explore the use of skid-resistant line marking at appropriate locations".	No further action is required with regard to this issue ***
13	More attention on pavement surface quality to avoid overlay ridges (High Priority).	As per Issue 7 of the IRG submission.	As per Issue 7 of the IRG submission.	No further action is required with regard to this issue ***
14	Advocate for rear vision cameras to be made mandatory on van/trucks & buses/trams where central rear vision mirrors are not available.	Action R2 proposed to “Advocate for safer vehicles. Advocate for blind spot monitoring equipment (e.g. mirrors) to be installed on trucks to mitigate the danger of blind spots for cyclists; Advocate for messages on car doors or glass to mitigate car dooring”. **	Additional action: “Advocate for new vehicle regulations requiring the installation of rear vision cameras on van, trucks, buses & trams".	No further action is required with regard to this issue ***
15	A public education program to encourage cars to check their stop lights & turning signals regularly.		Additional action: “Develop behavioural programs to encourage drivers to conduct regular vehicle safety checks".	No further action is required with regard to this issue ***
16	Look & signal before turning when in the city signs to be erected in hot spots thought the City.	Action B1 proposes to “Develop behavioural programs to increase awareness, care & attention by motorists towards vulnerable road users; reduce driver distraction & car dooring; improve cyclists’ & drivers’ awareness of road safety issues (awareness of blind spots on trucks); increase the level of individual responsibility for road safety among all users”.	Additional action: “Develop behavioural programs to encourage drivers to check their blind spots for bicycles/motorcycles & to look/signal when turning".	No further action is required with regard to this issue ***
17	The undertaking of a series of independent “Stress testing” reviews of site access & transit times for emergency vehicles throughout the city at various peak congestion/travel times.	Consultation with Ambulance Victoria & MFB has been undertaken regarding the Plan. Their input will been included in the Plan.		No further action is required with regard to this issue ***

****** This is a State Government issue.

*** There was general agreement at the meeting that the actions that have already been proposed and/or the additional/amended actions (outlined in the two columns to the left), adequately address the related issue raised. No further actions are required.

6.3 Summary of the submission from the Victorian Motorcycle Council (VMC), received on 20 May 2013

	Issues Raised	Actions already in the previous version of the Plan / Comments	Additional/amended actions discussed at the meeting on 22 May 2013	Outcomes of the discussion at the meeting on 22 May 2013 & further comments
1	Clearer definition of what the audit in M2 would entail. There is scope to do something beyond an audit of roads for motorcycle safety.	As per Issue 7 of the IRG submission.	As per Issue 7 of the IRG submission.	No further action is required with regard to this issue ***
2	Training programs in defensive riding for PTW riders, possibly subsidised for CoM residents. These improved skills could be expected to help reduce motorcycle accidents.		Additional action: "Encourage & promote the uptake of the existing defensive riding training programs & courses".	No further action is required with regard to this issue ***

3	Ongoing advertising campaign on motorcycle awareness aimed at drivers & pedestrians	As per Issue 16 of the scooter rider/resident's submission.	As per Issue 16 of the scooter rider/resident's submission.	No further action is required with regard to this issue ***
4	CoM supporting Motorcycle Awareness week, following the MotoGP.		As per Issue 9 of the IRG submission.	No further action is required with regard to this issue ***
5	Enforcement/education campaigns aimed at poor driver behaviours such as changing lanes without adequate signalling & opening doors without checking.	As per Issue 16 of the scooter rider/resident's ' submission.	As per Issue 16 of the scooter rider/resident's submission.	No further action is required with regard to this issue ***
6	Preferential & separated PTW traffic lanes.	**	As per Issue 1 of the VSRA submission.	As per Issue 1 of the VSRA submission.
7	PTWs being allowed conditional access to share bicycle lanes, particularly where the road includes a tram line & implementation of a bike lane has reduced available road space for vehicles.	There are a number of actions in the Plan that are designed to enhance the safety of motorcyclists. The State Government is unlikely to allow motorcycles to use bike lanes/paths, due to safety concerns. **		The representatives of the motorcycle groups have requested that the CoM advocate on their behalf to the State Government to allow PTW's to use bicycle lanes. However, the use of bicycle lanes by PTW's may result in significant safety concerns, including the possibility of collisions between PTW's & bicycles; possibility of collisions between PTW's & pedestrians (particularly in physically separated bike lanes); & possible car-dooring involving PTW's. It is therefore proposed not to undertake any further actions with regard to this matter.
8	Granting PTWs conditional access to suitable streets which are currently closed to vehicular traffic (as a means of creating separated PTW arterials in the CBD?)	This proposal is not supported. The Road Rules are applicable to all vehicles.		It was agreed at the meeting to propose the following action: "Consider the safety implication of allowing bicycles & PTW's access through future road closures & entry/turn bans".
9	Action plan to support & actively advocate for PTW filtering through slow moving/stopped traffic lanes, such as bicycles are currently allowed to, including advanced stopping lines at signals.	**	As per Issue 5 of the IRG submission.	As per Issue 5 of the IRG submission.
10	Clear statements promoting PTW use in CoM as a congestion busting option, understanding that reduced congestion leads to safer roads.		Additional action: "Encourage motorcycling as a sustainable form of transport, which assists in reducing traffic congestion"	No further action is required with regard to this issue ***
11	Action plan to support & actively advocate for PTW sharing of bus lanes.	As per Issue 6 of the IRG submission.		As per Issue 6 of the IRG submission.
12	Regular meetings between VMC representatives & CoM		As per Issue 2 of the IRG submission.	No further action is required with regard to this issue ***
13	Line markings which use a "grippy" paint reducing likelihood of slips/falls on wet days		As per Issue 12 of the scooter rider/resident's submission.	No further action is required with regard to this issue ***
14	Investigating options to improve friction factors of tram lines at intersections, thus improving wet weather safety for PTWs & cyclists. It may be as simple as ensuring that tram lines are never proud of the surface therefore ensuring that tyres never break contact with the road surface.	Action M1 proposes to "Design with motorcycles in mind; ...; explore with Yarra Trams options to address safety issues for motorcyclists (e.g. road surfaces adjacent to tram tracks)". **	Additional action: "Explore with Yarra Trams the feasibility of providing skid-resistant tram tracks, particularly at intersections".	Preliminary discussions were held with Yarra Trams regarding the need to increase traction along the tram tracks (using grooves etc). It was considered appropriate to undertake research assessing the feasibility of this proposal, given the potential safety benefits to both motorcyclists & cyclists. The impact of such a treatment on the wheel-track interface & passenger comfort would need to be assessed. If an appropriate treatment could be developed, it could be used at some intersections with identified safety issues.
15	Active training from VicRoads in specific PTW friendly road engineering/maintenance activities for road repair crews & road designers.	As per Issue 7 of the IRG submission.	As per Issue 7 of the IRG submission.	No further action is required with regard to this issue ***
16	Positive public education/awareness campaigns focussed on sharing the road with PTWs & outlining PTW's positives particularly their congestion reduction benefits.	As per Issue 16 of the scooter rider/resident's submission.	As per Issue 16 of the scooter rider/resident's submission.	No further action is required with regard to this issue ***
17	Specific public education campaigns regarding straight through & right turning collisions.		Additional action: "Develop behavioural programs to raise driver awareness of motorcyclists when turning right & travelling straight through intersections".	No further action is required with regard to this issue ***
18	Commitments to develop accurate data gathering methods to both better gather motorcycle crash data for genuine root cause analysis, & for developing a better understanding of motorcycle use.	Action R1 proposes to "Advocate for better data collection & establishment of national agency to coordinate the collection/collation of crash data; work with academic bodies to develop crash data research/analysis". **		No further action is required with regard to this issue ***
19	Greater alignment in the policy treatment of PTWs as compared to the preferential treatment given to bicycles. The very strong overlap in shared issues between both modes should make this reasonable straight forward.		Additional actions: "Consider possible safety improvements for motorcyclists, when assessing road safety measures for pedestrians/cyclists".	No further action is required with regard to this issue ***

6.4 Summary of the submission from the Victorian Scooter Riders Association (VSRA), received on 23 May 2013

	Issue Raised	Actions already in the previous version of the Plan / Comments	Additional/amended actions discussed at the meeting on 22 May 2013	Outcomes of the discussion at the meeting on 22 May 2013 & further comments
1	Introduction of PTW lanes & boxes for scooters & small motorcycles.	**	Additional action: “Investigate the introduction of PTW lanes & boxes"	Strong support was expressed by the representatives of the motorcycle groups for the introduction of PTW lanes. However, it is unlikely that opportunities could be found to accommodate such lanes in the City environment, given the traffic conditions/volumes & limited road widths, particularly in peak periods. It is therefore proposed not to undertake any further action with regard to this matter. However, it is proposed to "Investigate the introduction of PTW boxes, in consultation with all road user groups & relevant State Government agencies".
2	PTW early start get-away for scooters & small motorcycles.	**	Additional action: “Investigate the introduction of early start up for motorcycles at traffic signals"	This action should be considered as part of an overall assessment of the benefits of the early start up for all sustainable / vulnerable road users such as pedestrians, cyclists & public transport users.
3	Eliminate black spots, in particular those on popular PTW routes.		Additional action: “Identify Blackspot motorcycle crash locations, particularly along popular motorcycle routes, and implement appropriate road safety treatments designed to reduce both the incidence & severity of crashes"	No further action is required with regard to this issue ***
4	Increase footpath, centre of road & undercover parking.	As per Issue 3 of the IRG submission.	As per Issue 3 of the IRG submission.	No further action is required with regard to this issue ***
5	The Plan to include support for the PIMS review of the benefits/risks of filtering.	As per Issue 5 of the IRG submission.	As per Issue 5 of the IRG submission.	No further action is required with regard to this issue ***
6	Support the introduction of Bus Lane Sharing for PTW's.	As per Issue 6 of the IRG submission.		No further action is required with regard to this issue ***
7	Request VicRoads for data from the Hoddle St Bus Lane Trial, for inclusion in the Plan.	The data will be requested from VicRoads.		No further action is required with regard to this issue ***
8	Encourage a shared responsibility by all road users & not be seen to favour any particular sector.	There are a number of actions in the Plan which encourage shared responsibility by all road users, including Action B1: “Improve the relationship among road users; Design behavioural programs using a behaviour change framework; Increase the awareness, care and attention by motorists towards vulnerable road users; Encourage motorcyclists to wear protective clothing, in order to reduce the injury severity of crashes; Increase the level of individual responsibility for road safety among all users”.	Remove references to the "Hierarchy of vulnerability" (i.e. pedestrians then cyclists then motorcyclists) from the Plan. Pedestrians, cyclists & motorcyclists will continue to be referred to as "vulnerable road users".	No further action is required with regard to this issue ***
9	Free parking permits for Melbourne residents owning PTW's.	This matter falls outside the scope of the Plan.		No further action is required with regard to this issue ***
10	Support engineering practices & road maintenance procedures that will improve safety for riders.	As per Issue 7 of the IRG submission.	As per Issue 7 of the IRG submission.	No further action is required with regard to this issue ***
11	Encourage greater use of PTW's in Melbourne/CBD.	As per Issue 9 of the IRG submission.	As per Issue 9 of the IRG submission.	No further action is required with regard to this issue ***
12	Whenever any road safety or related initiative is considered for cyclists/pedestrians, it should also be considered if appropriate for PTW's.		As per Issue 19 of the VMC submission.	No further action is required with regard to this issue ***
13	The Plan should commit to road safety promotions that include all road users.	As per point 8 above.	As per point 8 above.	No further action is required with regard to this issue ***
14	The Plan to ensure footpath parking is not lost by PTWs to provide additional parking for cyclists.	Motorcycle advocacy groups were consulted at the 'Motorcycles in the City of Melbourne Committee' regarding the banning of the footpath parking at the three locations in the CBD".	Additional actions: “Continue to consult motorcycle advocacy groups, via the Motorcycles in the City of Melbourne Committee, regarding any future proposals to ban/reduce parking on footpaths".	No further action is required with regard to this issue ***
15	The Plan to acknowledge there will be no further bans on footpath parking without consultation with PTW advocacy groups.		As above.	No further action is required with regard to this issue ***
16	CBD should not be designed as a pedestrian & recreational haven at the expense of commuters & those undertaking business related activities.	The safety & amenity of all road users will continue to be considered in the planning/design of future proposals/measures.		No further action is required with regard to this issue ***
17	Recommend MCC undertake & facilitate ongoing consultation with PTW advocacy groups		As per Issue 2 of the IRG submission.	No further action is required with regard to this issue ***

6.5 Summaries of the submissions from the other key stakeholders

Submission from Yarra Trams, emailed on 14 June 2013:

	Issues raised	Comments & proposed actions
1	Yarra Trams has provided an analysis of collisions involving trams that occurred within the CoM during a 5-year period, between 1/1/2008 & 31/12/2012. The analysis includes all crashes, mostly involving minor injuries & property damage, most of which are not reported to Police & are therefore not represented in the Crashstats database. In the CBD, large numbers of collisions were recorded along Flinders, Collins, Bourke & La Trobe Streets. The majority of collisions involved motorists failing to obey the yellow lines & incorrectly judging the gap required (between their vehicle & the tram) to overtake parked vehicles; to perform U-turns and to make right turns.	An additional action A5 is proposed, to "Work with Yarra Trams & PTV to identify the causes of tram crashes & implement appropriate road safety treatments, designed to reduce both the incidence and severity of crashes". The analysis provided by Yarra Trams will assist in identifying the causes of the crashes & implementing appropriate treatments.
2	In order to reduce tram to motor vehicle collisions, Yarra Trams recommended that full separation of the tram lines from motor vehicles be provided and that the right turns be restricted to signalised major intersections only.	Full separation of the tram lines was undertaken by Yarra Trams along Spencer St in 2011, with the assistance of the CoM. The banning of right turns into unsignalised streets & laneways would need to be considered on a case by case basis, as the wholesale banning of right turns could lead to increased congestion & access difficulties for abutting property occupiers, particularly businesses serviced by larger vehicles. The CoM will continue to assist Yarra Trams & the PTV with future proposals for the full separation at other locations, as required.
3	Along St Kilda Rd, Flemington Rd, Victoria Pde & Royal Pde, there were high numbers of collisions between motor vehicles & trams at the median openings. Defined road separation along these arterials & providing traffic signals to enable for controlled right turns is necessary to reduce these high consequence collisions. Yarra Trams' data indicates that full separation of trams & road traffic improves safety for passengers, employees & other road users.	As above. St Kilda Rd, Flemington Rd, Victoria Pde & Royal Pde are Arterial Roads, under the control of VicRoads.
4	Yarra Trams provides training for their drivers on maintaining driver vigilance and defensive driving techniques, in order to minimise the consequence of or avoid collisions all together. Yarra Trams has an annual plan to undertake detailed risk assessments to measure the current controls at Hotspot locations.	Noted.
5	Yarra Trams is currently running the 'Beware the Rhino' campaign.	An additional action A4 is proposed, to "Support the Beware the Rhino campaign by Yarra Trams, to encourage motorists to stay clear of the yellow line and always check for trams before turning".

Comments from the Victoria Police, via emails on 7 & 11 June 2013:

	Issues raised	Comments & proposed actions
1	The additional analysis/data (i.e. revisions made since April 2013) appears to be on track, is informative & provides the required information. Overall, the new data & proposed strategies are supported. The proposed actions address the issues identified in the crash data.	Following the April FMC meeting, further analysis has been undertaken of the crash statistics & issues involving cars, trams, buses, trucks & taxis. A number of additional actions have been proposed in order to address the causes of these crashes.
2	Would be interested in seeing the additional proposals involving motorcyclists, as they have been overlooked as genuine vulnerable road users. The new data sets should provide information that would increase the focus on motorcycles.	A number of additional actions were proposed as a result of the consultation with the representatives of the motorcycle groups, following the April FMC meeting.
3	Would be interested in seeing the follow up data on the decrease in the CBD speed limit and if it has had any effect on driver behaviour and collision stats.	The CoM is working closely with the Victoria Police, to monitor the crash statistics in the Hoddle Grid. The CoM is undertaking speed surveys, to assess the impact of the 40km/hr speed limit.

Comments from Ambulance Victoria, emailed on 7 June 2013:

	Issues raised	Comments & proposed actions
1	The Plan proposes to reduce traffic flow in order to improve safety for pedestrians & cyclists. This will impact on Ambulance Victoria's ability to respond to cases in a timely manner. The provision of bike lanes & walking paths will result in reduced road space. Should an ambulance be moving into/through this area, there will be less options for other vehicles to move change lanes or for ambulances to lane split to assist their passage when travelling under emergency conditions.	In order to address the issues raised, an additional action A1 is proposed, to "Consider the impact of future traffic management proposals that may reduce motor vehicle capacity on response times of emergency vehicles".
2	The aim of reducing risk to pedestrians & cyclists is appreciated as they represent a significant portion of incidents attended in the CBD. Ambulance Victoria obviously supports initiatives that reduce road traffic trauma. However, there will be some negative impacts to Ambulance Victoria and this should also be considered in the overall plan.	As above.

Comments from Metropolitan Fire Brigade, emailed on 8 June 2013:

	Issues raised	Comments & proposed actions
1	The MFB notes the road crash data provided in the Plan & supports the CoM, other key stakeholders & agencies in an effort to provide a safer community across the municipality.	Noted.
2	The MFB asks that that due consideration be given to the access of emergency vehicles, particularly fire trucks. These vehicles are large & need a relatively clear path while responding to an emergency. Should an emergency vehicle be impeded on its path to an emergency this has a direct impact on its response times.	Additional action A1 is proposed, to "Consider the impact of future traffic management proposals that may reduce motorvehicle capacity of response times of emergency vehicles".

Comments from Public Transport Victoria (PTV), emailed on 5 June 2013:

	Issues raised	Comments & proposed actions
1	The impact of the closure of Swanston St to private vehicles on crashes should be assessed.	The CoM is working closely with the Victoria Police, to monitor the crash statistics along Swanston St, following its recent upgrade.
2	Physical separation is recommended between motor vehicle traffic & trams, such as raised tram tracks along Spencer St.	As per comments regarding issue 2 of the Yarra Trams submission.
3	The closures of other roads should be considered, similarly to Swanston St & the Bourke Street Mall.	Currently, there are no proposals to close other roads to traffic (with the exception of intermittent laneway closures).
4	The impact of removing tourist buses from Swanston St should be assessed.	Tourist buses were removed from Swanston St in 2009, following a fatal collision involving a cyclist. The crash statistics along Swanston St are currently being monitored.
5	Greater enforcement of the bus priority along Lonsdale St is required & physical separation should be considered.	The CoM will hold discussions with the Victoria Police, regarding the enforcement of the bus priority along Lonsdale St. The CoM will hold discussions with the PTV regarding the possibility of physically separating the bus lane. However, the impacts on all road users (including motorcycles, emergency vehicles & servicing vehicles) would need to be considered as part of such a proposal.
6	Taxis queuing into the traffic lanes at taxi ranks (particularly at Rialto & Collins Place) force traffic onto the tram reserve, delaying trams & leading to conflict between trams & traffic. The queuing by taxis should be banned if the rank is full.	The queuing into the traffic lanes is illegal under the Road Rules. This practice will continue to be enforced by the CoM's parking officers.

Comments from Road Safety Action Group Inner Melbourne (RSAGIM), emailed on 11 June 2013:

	Issues raised	Comments & proposed actions
1	Recognise the “safe system” approach, focusing on safe roads, safe road users & safer vehicles, providing a system that acknowledges that people will make mistakes & the outcome should not be tragic.	The safe system approach has been adopted during the development of the Plan.
2	Adopt an approach in the plan that strives for the highest level of control; with a commitment to eliminate hazards, to isolate the hazard or to implement engineering fixes as preferable to less effective & manageable fixes (like signage, etc).	This approach has been adopted in the Plan.
3	Adopt an approach to acknowledge & respect the pedestrian as the most vulnerable road user, and to plan around this. In the inner city in particular, consider the introduction of 30 kph speed limit by the sun setting of the new plan. This speed limit should also be considered in parts of the city with a high volume of pedestrians, such as shopping strips, around sporting and entertainment venues & dense population areas (such as Docklands, South Bank) etc.	Pedestrians, cyclists & motorcyclists are all recognised as vulnerable road users. There is no current proposal to introduce the 30km/hr speed limit.
4	Acknowledge in a risk hierarchal model that cyclists & motorcyclists are also vulnerable road users. Promote/encourage bicycles & motorcycles use in the Plan as part of a future focused on increasing environmental sustainability with an opportunity to reduce use of motor vehicles as a safer city will include more cyclists & motorcyclists.	The Plan aims to encourage walking, cycling & motorcycling.
5	Adopt a consistent & standard approach to safer roads. For instance, there are many different treatments to roads/road signage, and because of the differences, drivers, riders & pedestrians can be confused with the resulting inconsistencies.	The Plan aims to adopt a consistent/standard approach to improving road safety.
6	Make utility/public transport companies accountable when hazardous road conditions result due to road works, leading to use of steel plates (particularly when left in place long-term), inappropriate/dangerous placement of pits, pit lids, grates, gutters, etc.	Action R7 proposes to "Enhance the provisions for vulnerable road users during road/construction works".
7	Consider a collegiate approach to road safety with surrounding, adjoining local government areas that will lead to consistency in road safety theory and practice	The CoM is a member of RSAGIM & regularly conducts road safety campaigns in cooperation with the Cities of Port Phillip, Yarra & Stonnington.
8	Conduct regular audits, to include all relevant road users. Some treatments implemented lead to issues for other road users, including specifically pedestrians, cyclists & motorcyclists.	There are a number of actions in the Plan that propose audits involving the vulnerable road users. The theme of the Plan is that the safety of all road users will be taken into consideration during the development of all new traffic management proposals.
9	The VicRoads L2P Learner Driver Mentor Program supports young people to learn to drive by providing appropriate resources, including a car & experienced driver as mentor. The CoM should consider becoming a partner in this program (with VicRoads, the TAC, and youth support services) to support young people residing in the CoM to gain their licence & as a worthy investment for their future & other road users.	The CoM had considered becoming a partner in this program several years ago. However, a number of difficulties were identified with the CoM being able to run this program. It has therefore been decided not to proceed with this program at this stage.

Comments from Victorian Transport Association (VTA), emailed on 12 June 2013:

	Issues raised	Comments & proposed actions
1	The Plan refers to prime movers, rigid trucks, B-Doubles & B-triples. This is wrong terminology. Are prime movers rigid trucks? There are no B-Doubles or B-triples operating in/through the CBD.	The terminology used in the Plan regarding the truck types was taken from the VicRoads’ Crashstats database. While ‘prime movers’ refers to the large rigid trucks, the term ‘rigid trucks’ also includes the small trucks (which comprise the majority of trucks on our roads). Although B-Doubles are not allowed to travel on the Local/Arterial roads without a permit, such permits are issued by VicRoads, subject to approval by the CoM. While the Plan focuses on reducing crashes occurring on the Local/Arterial roads, there are also several Freeways in the municipality, where B-triples may be permitted and are therefore also included in the Crashstats.
2	The huge amount of heavy vehicles in/around the city should be recognised on building sites, including concrete/waste trucks & semis delivering building materials. There appears to be nothing in the Plan regarding these truck trips. This is a major problem for the city. The big issue missed is the thousands of light commercial vehicles operating in/around CBD every day. There is not much in the report about the importance of the business/commerce businesses in the city area. There is certainly conflict with pedestrians, cyclists and motorcyclists. Communication it is a big issue. How do you get to all the transport/commerce/delivery people? Most are not in the transport industry. They are in various supply chains. What about working with the industry as well as Governments?	The CoM will work closely with VTA during the implementation phase of the Plan, with a view to developing a communication strategy involving the broader Commercial Transport Industry, including the ‘smaller’ operators.
3	A 20% reduction is insufficient. You should shoot for zero fatalities & accidents. The transport industry has a zero philosophy on safety.	While a 20% reduction in crashes is not ideal, it is nonetheless achievable & realistic within the 5-year implementation timeframe of the Plan. The CoM will strive for a greater reduction within this timeframe, and will aim to further reduce crashes thereafter.

Comments from Transport Accident Commission (TAC), emailed on 12 June 2013:

	Issues raised	Comments & proposed actions
1	Given this is a CoM strategy, we are supportive of the additional information & analysis, which will provide a base for your evaluation. To keep the document strategic, you may wish to consider the additional crash data as an appendix or provide access to it on line.	The additional crash data analysis undertaken since April 2013 has been provided in section 10 of the Plan.

Comments from VicRoads, emailed on 13 June 2013:

	Issues raised	Comments & proposed actions
1	The data & proposed countermeasures for all road users (in addition to vulnerable road users) provides for a more robust plan and tells the complete story regarding road safety issues within the municipality.	Noted.
2	Page 20 - the first table under "Crashes involving all road users", do the figures under the "All road users" column represent the total of the figures in all the others columns?	In the table on page 20, the crashes in the “all road users” column represent the figures obtained from Crashstats under the “all road users” category. These figures (34 fatalities, 1,618 serious injuries & 3,262 other injuries) are slightly higher than the sum of the individual road users (i.e. the sums are 33 fatalities, 1,606 serious injuries & 3,250 other injuries), which could be due to errors in recording the data.
3	Summaries of crash types and which are most common appears to be repetitive, i.e. this is summarised for all crashes across the municipality then again by road user type. The reader may be overwhelmed with too much information.	While the analysis of the crashes involving each road user is somewhat repetitive, this is due to the analysis being undertaken in a systematic fashion, adopting a consistent approach. This enables a reader who may be interested in a specific category (e.g. a tram passenger wishing to look at tram crashes), to obtain comprehensive data on crash numbers, main crash types, trends, issues, etc.
4	Most of the potential countermeasures are focused on targeting behaviour or advocating technology/asset improvements. While this is positive, a lot of information is provided (mainly within the appendix) which highlights crash locations. Therefore, will the development of engineering treatments be considered to perhaps target problem intersections (for example)?	The potential countermeasures focusing on vehicle technologies & road user behaviour provide a ‘broad brush’ approach, with a view to reducing crashes at all locations across the municipality. However, the maps of the crash locations will enable the development of engineering treatments targeting specific sites.
5	Some of the additional countermeasures require advocating to public transport operators & the taxi industry for the implementation of behavioural changes or the introduction of new technology. I suggest discussing these with these operators (if not already) to ensure the proposals are feasible and achievable.	Feedback regarding the additional analysis undertaken since April 2013 & the related actions has been obtained from the relevant stakeholders (with the exception of the Victorian Taxi Association, which has not provided feedback at this stage).

7. Summary and conclusions

This chapter presents the key conclusions for the strategic issues and objectives identified through the consultation process. This helps to set the strategic direction for the Plan.

7.1 Government agencies and advocacy groups

Among the Government agencies with a key role in road safety, and the advocacy groups representing the vulnerable road users, there is a clear consensus that the current physical or built environment of the city, particularly in the central city, requires a number of changes to the design and function of its streets if it is to become a people-oriented place with a clear emphasis on the needs of pedestrians, cyclists and motorcyclists.

While there is an acknowledgement that there are many good aspects of the environment that support the needs of these groups (e.g. new bicycle infrastructure and accessible tram stops), they are often site-specific and the “system” is disjointed. While the permeability of the central city is considered relatively good in terms of its spatial layout, there is a need to reduce footpath clutter, create more/safer mid-block crossing points and review the operation of the traffic signals to give greater priority to pedestrians over traffic. The needs of visually/physically impaired pedestrians should be carefully considered in the design of all traffic management measures.

There is also an emerging theme around the ability of the city to cater for the growth in people walking, cycling and motorcycling. The capacity issues associated with footpaths, particularly at the main rail stations, is forcing pedestrians out onto the roadway. Notwithstanding the obvious risk to pedestrians of having to enter the road with passing traffic, cyclists have also noted that this issue is impacting on their safety as pedestrians are encroaching into the space they normally ride through (i.e. kerbside).

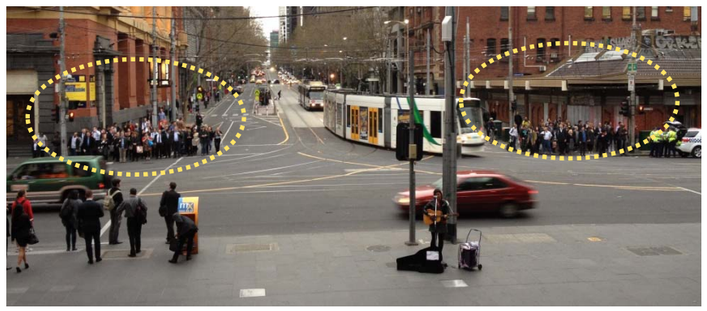


Figure 2: Intersection of Bourke and Spencer Streets (during the PM peak)

Behavioural issues are prominent for all vulnerable road users. For example, many of the measures introduced to support cycling are being undone by illegal parking in bicycle lanes, often by delivery trucks and taxis. The lack of understanding of the use and function of shared space and paths is a common issue for both pedestrians and cyclists. There is also agreement among these users about the lack of understanding and appreciation of each other’s needs, leading to frustration and conflict in these spaces. Both cyclists and motorcyclists raise significant concerns about the lack of awareness and care shown by drivers with regards to their safety. Motorcyclists are concerned that they are not being given the same consideration as other vulnerable road users, particularly in terms of planning, design and funding. The Plan includes a number of actions designed to ensure that the safety and amenity requirements of motorcyclists are considered as part of the design process of traffic management treatments.

The objectives recommended by the steering committee focus on addressing these issues, balanced against the operational needs of the City, its businesses and communities. Common objectives focus on the need for greater care and attention among all road users, particularly for the needs of pedestrians, cyclists and motorcyclists.

The development of new urban design guidelines that support the creation of “streets for people” are seen as fundamental in shifting the paradigm from cars and traffic to people and place, creating an environment where pedestrians, then cyclists and then motorcyclists are prioritised. Fundamentally, there is consensus that the dominance of cars and trucks in the central city is no longer viable, given the changing form and function of the urban environment. The needs of pedestrians, cyclists and motorcyclists should be embedded in the future planning, policy and design of the City.

7.2 Business and community groups

Business and community group representatives often had very different views on road safety, particularly in terms of prioritising the needs of the various road users. While business representatives acknowledged the vulnerability of pedestrians, cyclists and motorcyclists, they were concerned about the trade-off with the operation of their businesses and the economic sustainability of the City. These concerns focused on ensuring that deliveries can be made and that businesses can continue to operate efficiently.

These groups agreed that there is a worrying lack of understanding and respect among all road users, particularly drivers.

The current physical and built environment was commonly considered unfriendly for walking, cycling and motorcycling. There was concern that more needed to be done to create an environment where people feel welcome, comfortable and able to meet and socialise. The ability of the streets to support the community and social needs of the city, as it becomes home, workplace and playground to increasing numbers of people, was considered critical to its long term health and sustainability.

There were many concerns about the disjointed bicycle network and associated facilities in the central city. The provision of safe, comfortable and connected routes was considered vital to enabling more people to take up cycling.

In terms of objectives, these groups focused on regulatory matters, including the reduction in the speed limits. There was significant support for changing the Road Rules to provide greater priority for pedestrians. The need for greater enforcement of cyclists’ needs was also identified.

Design changes were also important in creating an environment where pedestrians, cyclists and motorcyclists will be safe and supported.

Finally, there was consensus on the need to improve awareness of and foster greater respect for the needs of vulnerable road users.

7.3 The wider community

The feedback from the wider community revealed clear themes about the key road safety issues and objectives. Inappropriate cycling behaviour (including riding on footpaths and running red lights), and inappropriate walking behaviour (such as crossing against the red) were significant concerns for pedestrians.

Car-dooring was a primary issue for cyclists (which was confirmed by the crash data and highlighted during the recent Parliamentary and Coronial enquiries). The lack of care and attention by drivers of the needs of cyclists (e.g. blocking intersections and manoeuvring without indicating) was a common theme.

Motorcyclists expressed similar concerns about the behaviour of drivers. The lack of awareness of motorcyclists and random manoeuvring by drivers poses significant safety concerns.

The principal issue among the wider community in terms of the rules and regulations focused on speed. While there were no explicit suggestions for reducing the speed limit to a specific level, high traffic speed was a key concern.

The wider community identified the contribution of the built environment to the lack of safety for vulnerable road users. Pedestrians, cyclists and motorcyclists all noted specific issues associated with the current design of streets in the City. For example, pedestrians noted issues with crossing the street at both signalised intersections and roundabouts. Cyclists noted the lack of appropriate facilities for their needs, such as separated bicycle lanes. Motorcyclists identified poor road condition as a key safety issue.

The wider community noted a significant number of objectives, particularly in terms of improving the physical environment to better support the needs of pedestrians, cyclists and motorcyclists. There was consensus among these groups that inconsiderate behaviour needed to be addressed as a priority.

Both cyclists and pedestrians had a clear preference for better infrastructure. For pedestrians, this including more pedestrian-only areas and greater priority at signalised crossings. For cyclists, more and better connected (separated where possible) bicycle lanes were critical.

While motorists' main objective was addressing inconsiderate road user behaviour, they also noted that measures where need to reduce the overall level of traffic in the central city.

Finally, there was consensus among all road users that a more strategic approach was required to deliver an environment where pedestrians, cyclists and motorcyclists had priority and were supported as the dominant modes of travel in the City.

7.4 Conclusions

Overall, there were common themes around:

- Improving the care and attention paid by motorists to pedestrians, cyclists and motorcyclists;
- Improving the relationship among pedestrians, cyclists and motorcyclists;
- Reducing traffic speeds;
- Greater enforcement of road rules to support pedestrians, cyclists and motorcyclists;
- Providing an urban environment that prioritises the needs of pedestrians, cyclists and motorcyclists, including:
  - *development of new urban design guidelines for "Streets for People"*
  - *providing greater priority for pedestrians at signalised crossings*
  - *better provisions for people with mobility impairments*
  - *more, better, connected bicycle lanes, separated where possible*
  - *safer provision for pedestrians and cyclists at and around tram stops*
- Measures to discourage (but not ban) traffic in the central city; and
- Better monitoring and evaluation of road safety trends, data and measures.

Submission from Yarra Trams received on 14 June 2013

Five-year overview of tram/vehicle collisions 01/01/2008 to 31/12/2012 (these include all crashes, mostly involving minor injuries and property damage, which are not reported to Police and are therefore not represented in the Crashstats data):

- Along Flinders St 277
- Along Collins St 276
- Along Bourke St 188
- Along Latrobe St 86

Flinders St

The collisions along Flinders St are mostly due to motorists failing to obey the yellow lines, and incorrectly judging the gap required to overtake parked vehicles especially around Market St and Elizabeth St.

Collins St

The collisions along Collins St can be attributed to motorists failing to obey the yellow lines, and incorrectly judging the gap required to perform U-turns (often involving taxis) and or make a right hand turn. Hotspots are at or close to the intersections with Elizabeth St (the worst location in the CBD). Followed by Spencer St, Swanston and Russell Streets and west of William St, as traffic congestion is high at these locations.

Bourke St

Bourke St is similar to Collins St with fewer incidents reported due to the limitations on motor vehicle traffic flow as a result of the Bourke St Mall which is open to pedestrian and tram traffic only.

La Trobe St

La Trobe St collisions are mostly due to motorists failing to obey the yellow lines, and incorrectly judging the gaps required, this is particularly evident at Spencer St.

Elizabeth St

The Elizabeth St/Flemington Rd (Haymarket roundabout) has been a hotspot for several years. A new treatment installed in 2011 (new configuration and signaling) is already showing a decline in collisions. The intersection of Elizabeth St and Lonsdale St shows a higher rate of incidents occurring in the direction of traffic heading out of the CBD. Where motorists fail to observe trams or incorrectly judging the gap required to turn into Lonsdale St east bound. At Elizabeth St between Collins and Flinders Streets (particularly at Flinders Ln), an increased volume of slow moving traffic contributes towards motorists failing to obey the yellow lines, and incorrectly judging the gaps required to turn right into Flinders Ln to escape traffic build up.

Swanston St

Yarra Trams have installed new platform stops along Swanston St between La Trobe St and Flinders St, which has removed motor vehicles from the area and reduced the number of collisions. However, incidents are reported in Swanston St north of the city (i.e. Victoria St, Queensberry St and Lincoln Square), where cars are permitted.

Spencer St

There is an increased likelihood of collisions at intersections along Spencer St at Collins and Bourke Streets. In response Yarra Trams have installed platform stops in addition to raising the track. This has begun to reduce the incidents along Spencer St.

Peel St

The intersections of Peel St with Victoria St and Dudley St (roundabout) are high incident locations. Traffic congestion at the intersection restricts vehicle movement along Peel St.

Spring St

The intersections along Spring St particularly at Bourke St and Collins St have an increased likelihood of tram to vehicle collisions.

St Kilda Rd

Collisions at intersections along St Kilda Rd can be attributed to motorists failing to obey the yellow lines, and incorrectly judging the gap required to successfully make a turn. At the intersection of Domain Rd/St Kilda Rd there have been a number of collisions and pedestrian knockdowns reported in the defined period. However the new platform design and traffic control arrangements from the recent upgrade to the Domain interchange is expected to reduce the number of incidents at this location. The intersection of St Kilda Rd at Bowen Crescent is also high likelihood location for a collision, particularly right turns from St Kilda Rd.

Commercial Rd

Tram to vehicle collisions at the entrance/exit into the Alfred Hospital, can be attributed motorists failing to obey the yellow lines, and incorrectly judging the gap required to successfully make a turn into or out of the car park.

Victoria St/Hoddle St intersection

This is another Hot Spot identified by Yarra Trams, contributing to incidents and issues involving the merging of traffic on the east side of Hoddle St.

Summary

- To reduce tram to motor vehicle collisions would require full separation of tram lines and restricting right turns to fully signalized major intersections only.
- The information provided looks specifically at collisions; however other peripheral incidents are not addressed. For example tram drivers applying emergency brakes to avoid collisions that result in passenger falls, approximately 1/3 of all falls occur in the CBD. Yarra Trams averages 160-180 falls per year. While this seems like a large number of falls, there would be are a number of falls resulting in minor injuries that are not reported to Yarra Trams.
- Looking at St Kilda Rd, Flemington Rd, Victoria Pde and Royal Pde, the incidents of motorists failing to observe trams at median openings are high. Defined road separation along these arterials and providing signalized intersections to allow for controlled right turns to occur across the tram lines is necessary to reduce these high consequence collisions.
- Yarra Trams provides training for their tram drivers on maintaining driver vigilance and defensive driving techniques, in order to minimize the consequence of or avoid collisions all together.
- Yarra Trams has an annual Plan to undertake detailed risk assessments to measure the current controls at Hotspot locations
- Yarra Trams' data supports the theory that full separation of trams and road traffic improves safety for our passengers, employees and other road users.

DRIVERS BEWARE – MEDIA INFORMATION

Data collected by Yarra Trams between 1 July 2008 and 30 June 2012.

Collisions by location

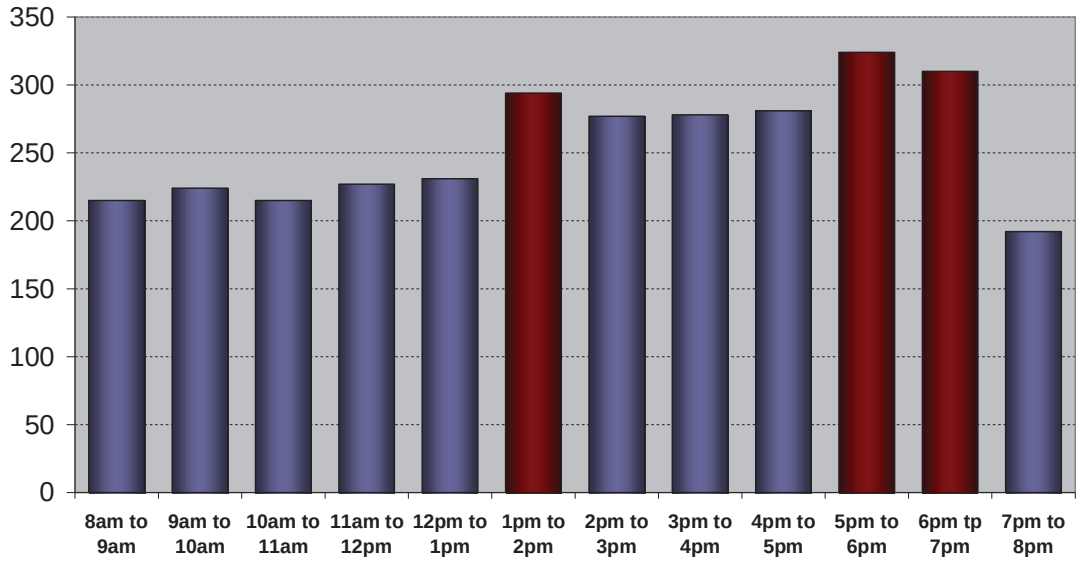
Elizabeth St / Collins St – 76
Punt Rd / Wellington Rd – 71
Spencer St / Collins St – 60
St Kilda Rd / Commercial Rd – 60
St Kilda Rd / Domain Rd – 51
Flinders St / Elizabeth St – 48
Racecourse Rd / Flemington Rd – 48
Russell St / Collins St – 48
Flemington Rd / Elizabeth St – 46
Flinders St / Swanston St – 43

Yarra Trams' data shows that five of the top 10 hotspots are in the CBD.

Collisions by hour

8am to 9am – 215
9am to 10am – 224
10am to 11am – 215
11am to 12pm – 227
12pm to 1pm – 231
1pm to 2pm – 294
2pm to 3pm – 277
3pm to 4pm – 278
4pm to 5pm – 281
5pm to 6pm – 324
6pm to 7pm – 310
7pm to 8pm – 192

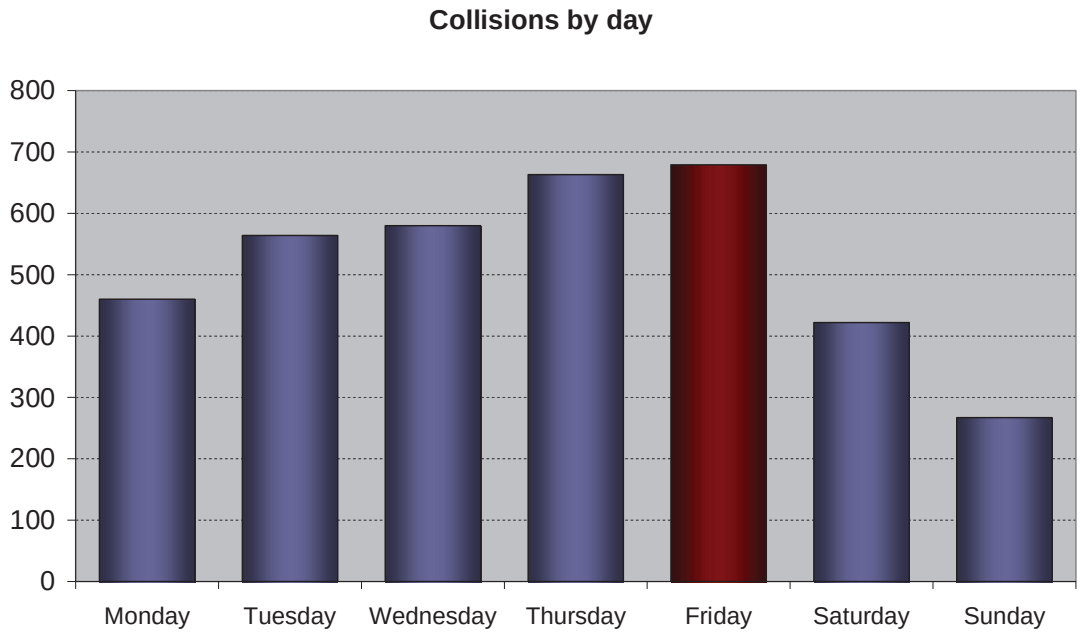
Collisions by hour



Yarra Trams' data shows that the likelihood of a tram to vehicle collision increases throughout the day.

Collisions by day

Monday – 460
Tuesday – 564
Wednesday – 580
Thursday – 663
Friday – 679
Saturday – 422
Sunday – 267



Yarra Trams' data shows that the likelihood of a tram to vehicle collision increases throughout the week.

Case study – Spencer Street

In April 2011, Yarra Trams carried out work in Spencer Street to separate trams from road traffic. This was achieved by raising the level of the tram tracks, including between Collins and Bourke streets and Bourke and Lonsdale streets.

In the three years to 30 June 2012, the intersections at Spencer and Collins streets and Spencer and Bourke streets recorded 47 and 29 tram to vehicle collisions respectively.

In the 2012/13 financial year to date, these intersections have recorded five and six such collisions respectively, none of which occurred where tracks are raised.

Yarra Trams' data supports the theory that full separation of trams and road traffic improves safety for our passengers, employees and other road users.

Yarra Trams
GPO Box 5231
Melbourne VIC 3001
Australia
T +61 3 9619 3200
F +61 3 9619 3217
yarratrams.com.au

8 April 2013

Media Release

MELBOURNE MOTORISTS TARGETED BY NEW TRAM SAFETY MESSAGE

Motorists in Melbourne are being urged to take more care when driving on roads shared with tram routes.

Yarra Trams has launched a second wave of its Beware the Rhino safety campaign, aimed at reducing the number of vehicle to tram collisions.

As part of its Zero Harm campaign, Yarra Trams' safety mascot, Spike, has become synonymous with tram safety in Melbourne after a successful 2011 campaign that reduced the number of tram to pedestrian collisions by 27 per cent.

Today, the rhino returns with a message for motorists – stay clear of the yellow line and always check for trams before turning.

With 1,801 collisions, Melbourne tops a list of suburbs where tram to vehicle collisions were recorded in the four years to 30 June 2012.

Data compiled by Yarra Trams reveals that five of the top 10 hotspots are in the city, with the intersection of Elizabeth and Collins streets recording the most collisions (76) since 1 July 2008.

Other Melbourne locations with high numbers of incidents are Punt and Wellington roads (71), Spencer and Collins streets (60), St Kilda and Commercial roads (60) and St Kilda and Domain roads (51).

A tram can weigh as much as 30 rhinos and the consequences for motorists who are hit by a tram can be fatal.

Drivers are urged to always obey the yellow line and take particular care when making a U-turn, a right turn or when driving through a median opening or cut through.

Near collisions also present the risk of injury as tram drivers apply the emergency brakes, which can result in on board passenger falls.

ENDS

Yarra Trams media line: 0410 473 719
Email: simon.murphy@yarratrams.com.au

Submission from the Independent Riders' Group

May 20, 2013.

FUTURE MELBOURNE (TRANSPORT) COMMITTEE

ROAD SAFETY PLAN 2013 – 2017

The goal of the plan is to "create a safe, comfortable and richly engaging urban environment where pedestrians, cyclists and motorcycle & scooter riders are welcomed and supported through world leading road safety practices". The plan aims to enhance the safety of all road users.

The City of Melbourne considers motorcycles & scooters to be a valuable and sustainable form of transport.

The Herald Sun. December 4, 2012. *"MOTORBIKES & SCOOTERS have been hailed as a solution to urban congestion in a new report. Federal and Transport Minister Anthony Albanese said that many of the world's cities were thronged with vehicles as people took advantage of the low-cost and efficient transport forms. 'However, in the Australian policy context, they tend only to be mentioned in discussions about safety,' he said. 'This can obscure the fact that they are an important and growing component of the urban transport mix at a time when congestion drags like an anchor on our time and productivity.' Alternative transport modes are discussed in the report,* ***State of Australian Cities 2012*** *..."*

THE INDEPENDENT RIDERS' GROUP

The Independent Riders' Group (IRG) represents individual riders.

The Auditor General documented (February 2011) the increase in popularity of motorcycles & scooters over the 8 years from 2002 to 2010. Registrations increased **58%** to 162,091. These machines are used for both commuting and recreation.

The IRG agrees motorcycles & scooters are both valuable and sustainable in Melbourne and throughout Victoria. But, motorcycles& scooters have too often been left out of government discussions/documents because departmental policies include them only as road safety problems and fail to report the benefits of powered two-wheelers in urban areas.

http://www.gizmag.com/motorcycles-reduce-congestion/21420/

Motorcycles & scooters are part of the colour and culture of Melbourne. The IRG welcomes stakeholder input to the Melbourne Road Safety Plan 2013 – 2017.

Items that should be included in the plan.

1. The plan should commit the City of Melbourne, in consultation with stakeholders, to producing a motorcycle & scooter plan similar to the Bicycle Plan 2012 – 2016. A motorcycle & scooter plan would give direction and definition to road safety initiatives for riders and promote a city that is fair to all road users. It would also make the City more "livable". http://theihe.org/knowledge-network/motorcycling/
2. The plan should commit the City to on-going consultation with stakeholders through the Motorcycles In Melbourne Committee and other systems. Consultation is in itself a road safety tool.
3. Parking facilities for motorcycles & scooters fall into 3 categories. A) footpath parking, B) on-street parking and C) off-street parking. The plan should recognise each of these and include providing more on-street and off-street bike parking. It should commit to a budget/program to advertise and promote these facilities. The City's bike parking area under the City Square is excellent value for riders but most people do not know it exists. The IRG would strongly oppose and change to footpath motorcycle & scooter parking like bans, time limits or fees.
4. Regulations for building projects similar to those that make developers/builders provide facilities for bicyclists should require planning permit applicants to provide facilities for motorcycle & scooter riders. This is a road safety initiative. City workers, particularly in the warmer months, who work in a retail or office environment are discouraged from wearing appropriate and expensive protective clothing on the bike if there is no secure place to leave their helmet, jacket, gloves, boots and so on. The plan should commit the City to providing safe off-street parking with lockers for protective clothing.
5. Motorcycles & scooters should be encouraged to filter through traffic. See recommendation 59 of the Parliamentary Inquiry into motorcycle & scooter safety. http://www.parliament.vic.gov.au/rsc/article/1409 Traffic filtering exists. It is the safest way to travel through heavy traffic in urban areas. It can be made safer if car drivers are educated to see the benefits to them. Bicyclists are already encouraged to traffic filter.
6. Motorcycles & scooters should be permitted to use bus lanes in most situations. A trial was conducted by VicRoads from 2011 to June 2012 in the inbound bus lane in Hoddle Street. It was a success. Bus lanes are safer for motorcycle & scooter riders in heavy traffic. VicRoads is delaying permitting motorcycle & scooter riders to use bus lanes. VicRoads permitted bicycle riders to use bus lanes in up to 70 kph zones, even in very hilly suburbs, without a trial or study. Most bus lanes are outside the Melbourne municipality but the City can influence other councils and government departments to change policies/rules.
7. The plan must set out initiatives for a safer road environment for motorcycle & scooter riders. Banning steel plates over road works is an obvious place to start. The build up of paint, oil and debris in and between lanes and at intersections should be monitored and remedied.
8. Car driver error causes most vulnerable road user casualties. The plan should include motorcycle & scooter riders with pedestrians and bicyclists in all education campaigns targeting car drivers.
9. Motorcycle & scooter riders come to the City to shop and for entertainment. Recognising that riders have a dollar value to Melbourne in the plan is a road safety feature in itself. The famous Elizabeth Street motorcycle & scooter precinct is the ideal place to run bike safety campaigns. Elizabeth Street, Melbourne is probably the oldest motorcycle centre in the world operating since the Milledge Brothers opened the first bike shop in 1903. http://www.tourism.vic.gov.au/images/stories/TV_Motocycle-Tourism-Strategy.pdf
10. The plan should commit to road safety promotions such as an annual RIDE TO WORK DAY and to returning the annual TOY RUN to the City.

Independent Riders' Group members Rod Brown, Heather Ellis and Damien Codognotto OAM contributed to this submission.

City of Melbourne's Road Safety Plan 2013-2017

FUTURE MELBOURNE (TRANSPORT) COMMITTEE

Summary of the main issues in Road Safety Plan	**IRG Comments**
1. Need for a motorcycle plan, similar to the Bicycle Plan 2012-16, to be included in future city plans	There is a need for a relevant Motorcycle Plan for2013-2016 as we are legitimate users of the city's road system.
2. The Plan mainly considers and encourages walking and cycling	The plan should: • Refer to the role that motorcycles can play, focusing on the strengths of this mode of transport and containing strategies to mitigate their weaknesses, including reducing their accident involvement rate. • Meet the needs of motorcyclists through regular consultation. http://theihe.org/knowledge-network/motorcycling/
3. Motorcycle transport must be seriously considered as an integral part of the plan now and into the future of the city for the following reasons:	Motorcycles are low cost to the city's road infrastructure, which already exists. They are energy efficient, space saving and environmental friendly compared to many other modes of transport. (New motorcycles must comply with very strict anti pollution requirements). They are able to transport two people, able to easily get out of the way of emergency vehicles, great for shopping with provision for a top box and panniers and are currently used by businesses throughout the city, for example – mail couriers, food deliveries. They are legally equipped with bright lights and indicators, brakes and horn and are ridden by qualified licensed registered road users who know the road rules. Motorcycling also brings in the tourist dollar from local and interstate markets. http://www.tourism.vic.gov.au/images/stories/TV_Motocycle-Tourism-Strategy.pdf

Summary of the main issues in Road Safety Plan	IRG Comments
	Shift to Motorcycles In February 2011, the Auditor General documented the increase in popularity of motorcycles and scooters over the 8 years from 2002 to 2010. Registrations increased **58%** to 162,091. These machines are used for both commuting and recreation. **Please Note:** Ho Chi Minh City (formerly Saigon), the Vietnamese city of **7.5 million people, is dependent on motorcycles as a major source of transport, having nearly five million motorcycles in use. However,** even in peak hour on the main thoroughfares, where a sea of motorcycles can be seen for miles, the traffic flow remains remarkably high. http://www.gizmag.com/motorcycles-reduce-congestion/21420/
4. Motorcycle parking on footpaths, roadsides and off-road (buildings and private dwellings).	**Footpath parking** for motorcycles has been reduced in many city locations by :- 1. No parking zones for motorcycles 2. 51 cycle stations in Melbourne. One cycle station is equivalent to parking a bus permanently on the footpath. Motorcycles do not take up permanent footpath space. 3. 2000 cycle hoops are in place, with more to be erected. Hoops in certain locations are placed too close to the gutter, making it difficult for passengers to get out of their cars. (Motorcyclists are fined for parking too closed to the gutter under the City's laws.) 4. Buskers and shopping trolleys on footpaths (near Vic Market, Elizabeth street) 5. Cycles parked inappropriately on the footpath; for example laying flat on the footpath and/or locked to sign posts. 6. Cyclists and skate board riders riding on the footpath. **7.** Melbourne's trend to having footpath style cafes as in Europe**.**

Summary of the main issues in Road Safety Plan	IRG Comments
	For many years, motorcycle footpath parking has been and is intrinsic to the culture of Melbourne, a historic motorcycling precinct, and we do not wish to lose anymore space. **The IRG would strongly oppose any change to footpath motorcycle and scooter parking, in the form of bans, time limits or fees.** **Road side and centre of road parking.** With increased numbers of motorcycle riders travelling in and out of the city for various reasons, additional parking space is needed. Parking areas should be safe to enter and exit and be in close proximity to motorcycle precincts and cafes/stores/shops frequently visited by riders. **Building car parks.** As an additional option to the above parking areas, this needs further development and awareness rising with riders (promotional campaigns). Cost, lockable riding gear lockers and locations central to the motorcycle precinct and cafes/stores/shops/entertainment venues frequently visited by riders are key considerations. **Private dwellings.** With increased high rise city living, plans must consider motorcycle parks for tenants and visitors.
5. Traffic Congestion	Motorcycles are space saving, have maneuverability, near perfect traffic mix and are able to keep with all modes of transport on the road. The introduction of bicycle lanes has had a big impact on trucks, cars, trams, buses, emergency vehicles and motorbike flow in and around the city. The IRG recommends motorcycles use push bike lanes. (Motorcycle riders share the safety zones with cyclists in London.) Filtering is being currently trialed in Sydney's CBD and if proven successful it would be beneficial to ease congestion in our City. The use of bus lanes by motorcyclists would also take the strain off congested roads. It would appear that congestion on our roads in the city is only going to get worse. Public transport is bursting at the seams, cars and trucks are at gridlock, car parking is limited and costly in and around the city, fuel prices are increasing and countries all over the world are looking for a cheap, quick and safe mode of transport for commuters (especially if the speed limits are 40km/hour)

Summary of the main issues in Road Safety Plan	IRG Comments
	Motorcycles are very popular for these reasons and will only increase in number as time goes by. Motorbikes and scooters have been hailed as a solution to urban congestion in a new report. http://www.infrastructure.gov.au/infrastructure/mcu/soac/index.aspx Also, new research indicates motorcycle commuting reduces traffic congestion and emissions.http://www.gizmag.com/motorcycles-reduce-congestion/21420/
6. Update the Road Safety Strategy to reduce deaths and serious injury to motorcyclists	**Key concerns for immediate attention:** 1. Need for a motorcycle plan to be included in future city plans, in consultation with stakeholders, similar to the Bicycle Plan 2012. The Plan also needs to meet the needs of the motorcyclists through regular consultation with them. **2.** IRG wishes to be included in the development of all future City of Melbourne plans. **3.** Motorcyclists must be seriously considered as an integral part of the plan now and into the future of the city (see 3 above). 4. Truck and car drivers need to be made more aware of motorcycles, curtailing the number of speeding drivers (drivers display poor attitude toward motorcycles). 5. Closer monitoring of pedestrians and cyclists not obeying the road rules resulting in serious altercations with motorcyclists (displaying poor road manners). 6. Recognise the needs of motorcyclists in the design, construction and maintaining of roads and footpaths. Designers need to 'Think Motorcycle.' 7. Continue to closely monitor and analyze motorcycle accident safety data with a view to improving motorcycle safety, which will result in fewer lives lost, reduced trauma and huge savings in health costs. 8. Recognise the needs of motorcyclists when designing, constructing and the location of road infrastructure (street and road furniture). 9. Road surface detritus needs to be cleaned up and taken away ASAP (e.g. banning steel plates over road works, cleaning up paint, oil, build up of leaves and accident scenes.)

Summary of the main issues in Road Safety Plan	IRG Comments
	10. Motorcycles and scooters should be encouraged to filter through traffic. See recommendation 59 of the Parliamentary Inquiry into motorcycle & scooter safety. http://www.parliament.vic.gov.au/rsc/article/1409. 11. Motorcycles and scooters should be permitted to use bus lanes in most situations. Bus lanes are safer for motorcycle and scooter riders in heavy traffic. Most bus lanes are outside the Melbourne municipality but the MCC can influence other councils and government departments to change policies/rules. 12. The famous Elizabeth Street motorcycle and scooter precinct is the ideal place to run bike safety campaigns. Car driver error causes the most vulnerable road user casualties. The plan should include motorcycle and scooter riders with pedestrians and bicyclists in education campaigns targeting car drivers. 13. The plan should commit to road safety promotions such as an annual RIDE TO WORK DAY and return the annual TOY RUN to the city precinct. **To be discussed at a later stage - sharing of cycling road lanes.** *The IRG agrees that motorcycles & scooters should be allowed to travel in on-street bicycle lanes for short distances in heavy traffic.* The IRG represents individual riders and has been consulted by members of the recent Parliamentary Inquiry into Motorcycle Safety in Victoria (PIMS) for its valuable input. The PIMS recommendations may have an impact on the safety strategies the city wishes to adopt http://www.parliament.vic.gov.au/rsc/article/1409

Submission from scooter rider/resident

Comments received via email on 17 April 2013 (name withheld):

Dear Lord Mayor and Councillors

Further to the decision last night to defer the adoption of the proposed City of Melbourne Road Safety Plan.

I request that the City of Melbourne publish on line in full all submissions made by stakeholders, not just an edited summary. Such a practice is standard in the consideration of State Parliamentary Committee submissions and allows all members of the public to view the issues raided whilst maintaining public confidence in the consultation process.

Council should provide a process and further opportunity for public debate on the use and development of the City's Road Network.

The City of Melbourne should also seek input and submissions from Melbourne's Emergency Services (Ambulance and Fire brigade) as to the impact of road safety plans, proposals and traffic lane restrictions.

I note with great concern that the Victorian Ambulance and Metropolitan Fire-brigade were not included in the initial Road Safety consultation

Motorcycle and Scooter riders are at an equal if not greater risk of safety to bicycle riders. The proposals put forward by the City of Melbourne in the draft report do not address Motorcycle and Scooter riders Road Safety issues. The ill-considered establishment of "Bike" Lanes that exclude access to Motorised Two wheel vehicles (Motorcycles and Scooters) and the associated displacement and congestion that results compounds the Road Safety Risk.

Further consideration needs to be given as to the opportunities of sharing bike lanes through-out Melbourne. Many lanes are underutilized and could be used to facilitate a safe travel environment for Motorcyclist and Scooter riders. The two modes of transport are not exclusive and can safely coexist under many circumstances and appropriate regulatory guidelines and protocols put in place. Not all bicycle paths are suited for sharing but many are. The City Council needs to discuss and identify those lanes were both modes of transport can be accommodated.

The City Council should consider as a matter of priority alternative routes for Cyclist pathways throughout the city with preference given to less congested roads and laneways. Consider for lane reductions should only be given as a last resort and only after extensive consultation with all stakeholders and public approval.

The provision of "Lane Filtering" options at inner city intersections that allow motorcycles and scooter riders to move to the front of the intersection to a safe zone and take advantage of a controlled early start as is currently afforded to bicyclists riders.

The Council's Transport Strategy plan and road network design needs to be reviewed to take into consideration the needs of all road users.

In addition: I request that the council consider the following additional issues of concern to help improve motorcycle/Scooter Riders (MSRs) Road Safety

- ❑ Shared Bus Lanes (Higher priority)
- ❑ Shared "Bike" paths (Based on a Bike Lane category system – High Priority)
- ❑ Bicycle "Bike" paths to be encouraged to use smaller less congested streets not major road feeders.
- ❑ Lane Filtering options at intersections (High Priority)
- ❑ Turn left at any time with care rights to reduce congestion and increase traffic flow (High Priority)
- ❑ Road Line Paint that is not slippery (Medium Priority)
- ❑ More attention on pavement surface quality to avoid overlay ridges (High Priority)
- ❑ Advocate for Rear Vision Cameras to be made mandatory on van/trucks and buses/trams where central rear vision mirrors are not available.
- ❑ A public education program to encourage cars to check their stop lights and turning signals regularly
- ❑ Look and signal before turning when in the city signs to be erected in hot spots thought the City
- ❑ The undertaking of a series of independent "Stress testing" reviews of site access and transit times for emergency vehicles thought out the city at various peak congestion/travel times

I look forward to the opportunity to discuss further in more detail the above and other issues related to the City of Melbourne's proposed Road Safety Plan

Should you require further information I can be contacted via return email or telephone *

Scooter rider/Resident

Submission from the Victorian Motorcycle Council, received on 20 May 2013

Victorian Motorcycle Council
PO Box 400
Baxter, Vic. 3911
victorianmotorcyclecouncil@gmail.com

c/o Alex.Gorelik@melbourne.vic.gov.au
Alex Gorelik - Co-ordinator Traffic Engineering.
Engineering services.
Melbourne City Council

Review of: City Of Melbourne, Road Safety Plan 2013 - 2017

Victorian Motorcycle Council Submission May 2013

About this submission:

The Victorian Motorcycle Council (VMC) welcomes the opportunity to offer a submission in review of the City of Melbourne Road Safety Plan 2013-2017, via Alex Gorelik - Coordinator Traffic Engineering. This review was made independently, but in parallel with the "*Victorian Scooter Riders Association*" and the "*Independent Riders Group*".

The Victorian Motorcycle Council was created to represent the interests of all motorcyclists, motorcycling organisations and relevant stakeholders in Victoria. The Victorian Motorcycle Council is represented on the Australian Motorcycle Council, the peak motorcycle body in Australia.

The principal author of this submission was Rob Salvatore - B.Eng Mech (Hons), Deputy Chair of the VMC, however direct and significant contributions were also made by Professor Richard Huggins, John Eacott – President, BMW MCC of Victoria, and Dr J Pattemore. This submission also takes into account the extensive knowledge and thinking of a diverse group of experienced, representative and interested motorcyclists who were consulted in preparing this submission.

The information included herein is for all intents and purposes, factual, correct, accurate and relevant. The VMC and/or its associates are available to expand on any of the points contained within this submission, or to consult further on any motorcycling/powered two wheeler related matters.

The Positives Of The Plan

The VMC recognises the large body of work represented by the Road Safety Plan (the plan) and that its primary focus is vulnerable road users. The plan covers a broad range of issues and lays out recommendations to improve vulnerable road user safety. We note that the plan includes some excellent motorcycle research and motorcycle statistics, and in addition, gives substantial coverage to motorcycle issues in an urban environment.

The reference to the *"Victorian Road Safety and Strategic Action Plan for Powered Two Wheelers 2009-2013"* was particularly significant as the document and its predecessor, were a watershed in Victorian motorcycling transport and safety policy. We also note positively that the plan references the "*State of Australian Cities 2012"* report which in a transport policy sense, was the first National report that gave significant recognition to motorcycling and its potential positive contributions.

Another highlight in the plan was that it plainly stated that road surface features and rear end and straight through collisions, were key motorcycle crash causes. This does not accord with the popular public perception. The VMC positively noted the commentary around the nature of single vehicle accidents (SVA) and the failure of SVA statistics to record contributory causes, namely motorcycles compensating for the errors of other road users. This is important since the City of Melbourne's roads are experiencing rising traffic densities, increasing the likelihood of these contributory interactions. Road Safety agencies have used SVA statistics in isolation to justify targeted enforcement campaigns, generating prejudicial media exposure as a by-product. It's noteworthy that the plan stays well away from this approach and is to be applauded.

Somewhat surprisingly, the plan recognised the negative perceptions which can be created by specifically targeted safety strategies. When such strategies target vulnerable road users, socially stigmatising perceptions can arise, suggesting that these modes are inherently dangerous and are to be discouraged. Motorcycling already has a substantially negative media perception despite the massive uptake in riding in the last 10 – 15 years and the positive transformation in motorcycle safety in that time. The plan avoids adding further to this negative perception.

There is a lot to be said about the plan and its positive focus on motorcycling. To that end, we specifically highlight the following regulatory and policy actions R6, R7, R9, R10, R14 and motorcycle action M2, which we believe will improve the amenity of, and work towards the safety of motorcycles in the City of Melbourne. We also positively note the reference to improved parking and facilities[1] encompassed in actions M1 & M3, although they aren't specifically safety initiatives. The VMC looks forward to the implementation of all these items and looks forward to being involved in their positive implementation.

[1] Anecdotally, riders report concerns about various public statements or councillor positions regarding reducing existing footpath parking arrangements. This issue has a high focus from riders and rider representative groups. Any reduction would be contradictory to the recommendations in the plan.

The Negatives Of The Plan

Leaving aside the positives, there appears to be a very significant and fundamental blind spot in regards to motorcycling. The plan fails to look at its strategies as a whole and analyse their overall impact on motorcycle safety. For example, the provision of better and more motorcycle parking, will promote motorcycle traffic into the city. This is to be applauded! However, if this isn't accompanied by a modal shift away from cars towards motorcycles, i.e., it's a leak from public transport, there will be more riders competing with drivers for the same road space. The plan also fails to account for the impact of this increased motorcycling uptake on the feeder roads, seemingly relying on riders to manage themselves.

Another way in which the plan fails to take in the bigger picture is that it appears to give over road space to pedestrians and cyclists. It fails to recognise and offer any practical solutions to the increased likelihood of conflict between vehicles and motorcycles by virtue of sharing a diminishing road space. Rising traffic density due to reduced road space is likely to lead to motorcyclists sharing the road with frustrated and grid locked drivers - this is a recipe for conflict.

We can see examples of this kind of negative impact on motorcycles already at super tram stops, such as those on Collins street. Riders are effectively forced to remain in the queue of traffic with all escape route avenues cut off due to the narrowed single lane bottle neck created by the tram stop. This means that riders remain exposed to potential rear end collisions, beholden to the awareness and skill of drivers. This is clearly at odds with the goal of making riders feel supported through safe, comfortable roads.

We're concerned that the plan clearly gives priority to pedestrians and cyclists in what appears at times, to be at the expense of riders. This deliberate strategy is at odds with the plan's stated goals recognising the vulnerability of riders to injury. The plan recognises that Motorcyclists have done remarkably well to reduce injury statistics by 75% (whilst registrations have increase by 73% over the same time frame), however, it would be unwise to rest on that laurel.

Some of the other concerns VMC had with the plan are:

- A clear lack of practical proposals to reduce accidents involving scooters and motorcycles.
- An underlying subtext that motorcyclists will fend for themselves in traffic and be expected to behave in a manner similar to cars, whilst cyclists are given very specific advantageous treatment (In light of the nearly similar vulnerability of cyclists and motorcyclists, this is a concern).
- There is no genuine effort to separate scooters and motorcycles from cars.
- There are no firm specific practical driver education and awareness programs, in respect of sharing the roads with scooters and motorcycle riders.
- There is no practical emphasis on training and how riders might better share the roads in a busy distracting urban environment.
- There are no specific and targeted actions in respect of riders improving their skills for greater road safety.

- There is the total absence of ebikes and ebicycles which are rising in popularity and as a cross over vehicle, may be problematic for road safety considerations.
- A failure to recognise that motorcycles can contribute substantially to reduced congestion[2] which would consequently lead to safer roads for all.

Despite the good work in the plan and Melbourne being recognised as a motorcycle friendly city, the VMC finds that the plan fails to move rider safety forward in any significant and sizable way.

Specific Actions / Recommendations For Consideration

The following list of possible improvements and recommendations are in no particular order, but are raised for consideration for inclusion into the plan.

- Clearer definition of what the audit in M2 would entail. There is scope to do something beyond an audit of roads for motorcycle safety.

- Training programs in defensive riding for scooter and motorcycle riders – possibly subsidised for city of Melbourne resident riders. These improved skills could be expected to help reduce motorcycle accidents.

- An ongoing advertising campaign on motorcycle awareness aimed at drivers and pedestrians.

- Melbourne City Council supporting Motorcycle Awareness week in the week following the MotoGP.

- Enforcement or education campaigns aimed at poor driver behaviours such as changing lanes without adequate signalling and opening doors without checking.

- Preferential and separated scooters and motorcycle traffic lanes.

- Scooters and motorcycles being allowed conditional access to share bicycle lanes in the City of Melbourne, particularly where the road includes a tram line and a the implementation of a bicycle lane has reduced available road space for vehicular traffic.

- Granting motorcycles conditional access to suitable streets which currently have vehicular traffic restricted. (Could this be a way of creating separated motorcycle arterials in the CBD?)

[2] See: Commuting by Motorcycle – Impact analysis of an increased share of motorcycles in commuting traffic. http://www.tmleuven.be/project/motorcyclesandcommuting/home.htm

- An action plan to support and actively advocate for motorcycle filtering through slow moving or stopped lanes of traffic, such as bicycles are currently allowed to. This includes advanced stopping lines at traffic lights.

- Clear statements promoting motorcycle uptake and use in the CoM as a congestion busting option, understanding that reduced congestion leads to safer roads.

- An action plan to support and actively advocate for motorcycles sharing of bus lanes.

- Regular meetings between VMC representatives and the Council's Road Safety Officer.

- Line markings which use a "grippy" paint reducing likelihood of slips and falls on wet days.

- Investigating options to improve friction factors of tram lines at intersections – thus improving wet weather safety for powered two wheelers (and cyclists) alike. It may be as simple as ensuring that tram lines are never proud of the surface therefore ensuring that tyres never break contact with the road surface.

- Active training from Vicroads in specific motorcycle friendly road engineering and maintenance activities for road repair crews and road designers.

- Positive public education and awareness campaigns focussed on sharing the road with motorcycles and outlining motorcycling's positives particularly their congestion reduction benefits.

- Specific public education campaigns regarding straight through and right turning collisions.

- Commitments to develop accurate data gathering methods to both better gather motorcycle crash data for genuine root cause analysis, and for developing a better understanding of motorcycle use/uptake in City of Melbourne boundaries.

- A greater alignment in the policy treatment of motorcycles as compared to the preferential treatment given to bicycles. The very strong overlap in shared issues between both modes should make this reasonable straight forward.

Conclusion

Motorcyclists are in the business of managing risk and are generally very successful at it. There has been a significant improvement in fatality and injury rate in both real and actual terms in conjunction with motorcycling being the fastest growing road user sector and more than doubling in participation in the last 15 years. The popularity of riding

looks like carrying on into the future, driven largely by congestion and fuel pricing issues. Getting the road safety and transport policy picture right has become even more important.

Much of these safety gains have come from riders themselves, having developed adaptable and resilient strategies to deal with a vast array of traffic scenarios and coming to the roads with higher levels of skills right from the L plate level. However, riders cannot continue to take the lion's share of the responsibility for their safety on the roads, despite this seeming intuitively correct given their exposed nature. Road safety is a shared responsibility and in metro areas, other vehicles are the leading cause of rider injury.

Leaving motorcycle safety largely up to riders is a path to diminishing returns, particularly in increasing traffic densities. In conjunction with vehicles containing growing blind spots and more distractions, the rider's work load will increase making the riding task much more complex and therefore more prone to error. If road systems are made safer for riders, and drivers are encouraged to share the roads and look out for exposed road users like motorcyclists, then the roads will become safer for all. It's a win win.

The MCC should be congratulated for developing a road safety plan which includes a focus on motorcycles – it's a great start. However, motorcycling needs to be considered in context of a broader transport policy framework of which safety is a component. The VMC hopes that the MCC will further Melbourne's positive reputation as a motorcycle friendly city by building on and developing further motorcycle friendly policies and working towards improving rider safety in tangible ways.

The Victorian Motorcycle Council and by extension, the Australian Motorcycle Council, stands ready to help and support the MCC in that endeavour.

Contacts:

Rob Salvatore – 0409 416230
victorianmotorcyclecouncil@gmail.com

Submission from the Victorian Scooter Riders Association, received on 23 May 2013

On behalf of the Victorian Scooter Riders Association (VSRA) I take this opportunity to thank the Lord Mayor, the MCC and the City of Melbourne Traffic Engineering Services for providing the opportunity to attend the meeting held on Wednesday the 22nd May to discuss the concerns raised by the VSRA, the VMC, the IRG and other stakeholder representatives of motorcycle rider groups.

I am pleased to advise I found the meeting to be cordial, well conducted and very productive, the spreadsheet you provided covering all the issues raised by each organisation was very helpful. The VSRA understands that not all of the 17 concerns raised in the VSRA submission as attached may be included in a revised MRSP 2013-2017, we do appreciate however the indication provided at the meeting that at least some of the issues raised may be included in a revised MRSP and in regard to the ***"Possible additional/amended actions"*** column of the Spreadsheet, in particular the five VSRA items as below:

Item 3) Eliminate black spots, in particular those on popular motor scooter and motor cycle routes
Item 4) Increase footpath, centre of road and undercover parking for motorcycles and scooters

Item 10) Support engineering practices and road maintenance procedures that will improve safety for riders

Item 12) Whenever any road safety or related initiative is considered for cyclists or pedestrians, it also be considered if appropriate for motor cycles and scooters

Item 15) The MRSP to acknowledge there will be no further bans on footpath parking without consultation with motor scooter and motor cycle advocacy groups

Item 17) The MRSP is to recommend the MCC undertake and facilitate ongoing consultation with PTW advocacy groups

We also hope that in the ongoing consultation with PTW advocacy Groups the other items raised in the VSRA submission can continue to be discussed, particularly items:
Item 1) Introduction of PTW Lanes and Boxes for motor scooters and smaller LAMS approved motor cycles
Item 2) PTW early start get-away for motor scooters and smaller LAMS approved motor cycles

Once again, thank you for arranging this meeting and providing the VSRA with the opportunity to attend and contribute to the discussion.

* Contact details withheld due to privacy considerations.

10 Island Point Avenue, Waterways Victoria 3195
Telephone – (03) 9798 8426
http://www.vicscooterriders.com.au
email: okeh1@bigpond.com

VSRA & RFL PROPOSAL

MELBOURNE ROAD SAFETY PLAN

For consideration by the Lord Mayor, MCC,
Future Melbourne Committee,
MCC Traffic Engineering Services

RFL RIDE FOR LIFE TRAINING

Prepared on behalf of the VSRA and the Ride for Life (RFL)
Rider Training School by Stephen Bardsley and Phil Robertson
May 2013

Lambretta Club Australia | Vespa Club Melbourne | Melbourne Crusaders | Melbourne Scooter Connection

TABLE OF CONTENTS

INTRODUCTION

1) FURTHER RECOGNISING THE ROLE OF MOTOR SCOOTERS & MOTOR CYCLES
with other road users in the Melbourne transport network and the MRSP 2013-2017

a) Motor scooters and motor cycles as vulnerable road users 1
b) Justification for greater recognition in the MRSP
c) Motor Scooters and motor cycles the answer to the World's traffic congestion

2) A PRIORITISED AND INTEGRATED APPROACH
to motor scooter and motor cycle transport and safety

a) Motor scooter and motor cycle use increases by 70% 2
b) Free parking permits for residents owning motor scooters and motor cycles
c) Filtering 3
d) Bus Lane Sharing

3) THIS TOWN IS BIG ENOUGH FOR ALL OF US
greater inclusion of motor scooter & motor cycles in the Melbourne traffic system

a) The clearly articulated goal of the MRSP 2013-2017 4
b) Footpath Parking
c) Motor scooters and motor cycle riders unfairly discriminated against 5
d) The CBD for recreation or business? 6
e) Benefits of motor scooters and motor cycles are greater than currently appreciated 7
f) Reduced traffic congestion assists road safety

4) INCREASING SAFETY FOR MOTOR SCOOTER AND MOTOR CYCLE RIDERS
in the MRSP and all future MCC transport policy and planning 8

a) Reducing the incidence of rear end collisions with PTW Lanes (continued) 9
b) Reducing the incidence of rear end collisions with PTW early start get-away 10
(PTW lanes & boxes for motor scooters and small LAMS approved motor cycles)

5) VSRA / RFL PROPOSALS OVERVIEW 11

A list of the 14 VSRA / RFL proposals for inclusion in the MRSP 2013-2017

Footnote
This Town is big enough for all of us!

List of frequently used abbreviations:

VSRA - Victorian Scooter Riders Association
RFL - Ride For Life (rider training)
MRSP - Melbourne Road Safety Plan
LAMS - Learner Approved Motorcycle Scheme
PTW - Powered Two Wheeler
CBD - Central Business District
MCC - Melbourne City Council

VICTORIAN SCOOTER RIDERS ASSOCIATION (VSRA)
MELBOURNE ROAD SAFETY PLAN PROPOSAL 2013

INTRODUCTION

This report has been prepared by the Victorian Scooter Riders Association (VSRA) and the Ride for Life (RFL) motor scooter rider training school. The VSRA represents the four largest Scooter Clubs in Victoria and approximately 1000 motor scooter riders as commuters and recreational road users and is the recognised peak body representing the interests of motor scooter riders and Clubs in Victoria. RFL is a non-profit rider training school providing free rider training to member Clubs of the VSRA. Both organisations encourage and facilitate safe motor scooter riding. The VSRA and RFL advocate that a shared responsibility for road safety should be embraced by all road users.

The VSRA appreciates the co-operation of the Lord Mayor, the MCC and the Future Melbourne Committee for providing this opportunity to submit a proposal relative to the MRSP 2013-2017 for evaluation and submission to the MCC Traffic Engineering Services. As stated at the FMC meeting on the 16th April 2013, the VSRA desires to work together with the MCC to help ensure Melbourne is made safer for pedestrians, cyclists, car drivers, public transport commuters, motor scooter and motor cycle riders.

Governments around the World have recognised the growing popularity of motor scooters and motor cycles and view them as an important component in their future transportation plans. The VSRA therefore requests the Melbourne Road Safety Plan 2013-2017 be amended to provide greater consideration for motor scooters and motor cycles and include additional initiatives that will facilitate greater contribution to improving road safety and traffic congestion for them in Melbourne and the CBD.

The VSRA and RFL acknowledge the MRSP 2013-2017 as a well prepared plan containing a highly appropriate vision, targets and desired outcomes; but believe it does not adequately consider motor scooter and motor cycles, this opinion made as only 7 of the 48 proposed actions in the MRSP implementation plan 8.3 are believed relevant to meeting the desired objectives for motor cycles and motor scooters (including M1, M2 & M3). Also the MRSP section 7.4 includes only 3 (three) proposed actions to enhance the safety of motor scooter and motor cycle riders, yet section 7.2 contains 15 (fifteen) proposed actions for pedestrians and a further 15 (fifteen) proposed actions are included in section 7.3 for cyclists. The VSRA and RFL therefore request the MRSP 2013- 2017 be revised to further enhance the safety of motor scooter and motor cycle riders and to also include additional proposed actions considering riders in sections 7.4 and 8.3 and to consider:

- Further recognising the role of motor scooters and motor cycles in the Melbourne transport network and the MRSP 2013-2017.
- Adopting a prioritised and integrated approach to motor scooter and motor cycle transport and safety.
- Encouraging greater inclusion of motor scooter and motor cycle use in Melbourne and the CBD.
- Including further initiatives to increase safety of motor scooter and motor cycle riders

The VSRA and RFL have therefore prepared this proposal for consideration by the Lord Mayor, the MCC, the Future Melbourne Committee and MCC Traffic Engineering Services. The proposal suggests initiatives for inclusion in a revised Melbourne Road Safety Plan. This proposal by no means is meant to cover every single safety issue requiring to be addressed, as these are too extensive to cover in the short time available to prepare this proposal and for which a continuing process and system of review will be required.

This report therefore addresses some of the more urgent issues and those which readily will make significant road safety and related improvements within Melbourne and the CBD. The VSRA and RFL remain available to assist the MCC to improve road safety as a continuing process. This report has been prepared not just as a list of ambit claims, but includes supporting information to assist readers to appreciate the context and justification for the proposed additions and amendments.

Whereas this report has been prepared independently by the VSRA and RFL, it is forwarded as one submission from the coalition of rider groups that includes the Victorian Motor Cycle Council (VMC) and the Independent Riders Group (IRG). The VSRA therefore requests the submissions from the VMC and the IRG be provided equal consideration.

FURTHER RECOGNISING THE ROLE OF MOTOR SCOOTERS & MOTOR CYCLES in the Melbourne transport network and the MRSP 2013-2017

a) Motor scooters and motor cycles as vulnerable road users

The Victorian Scooter Riders Association (VSRA) is of the opinion the draft Melbourne Road Safety Plan 2013-2017(MRSP) is a good plan with excellent vision, targets and desired outcomes and it only requires amendment to greater consider motor scooters and motor cycles. This is believed to be required as in its current format the MRSP can be seen to have a greater emphasis on safety and issues relating to pedestrians and bicycle riders than it does for other vulnerable road users. The VSRA believes amendments are justified as the statutory authorities VicRoads and the Victorian Transport Accident Commission (TAC) formally recognise motor scooter and motor cycle riders as vulnerable road users. The VSRA therefore proposes the MRSP 2013-2017 be amended to provide greater consideration for the inclusion of motor scooters and motorcycles after considering the proposals in this report.

b) Justification for greater recognition in the MRSP

The VSRA and RFL request the MRSP further considers the rapidly growing popularity of motor scooter and motor cycles on Melbourne roads and the resulting requirement for greater consideration of the role they currently and will in the future play in Melbourne transport and land use planning. In this regard the importance of motor scooters and motor cycles has been recognised in the Victorian Road Safety and Transport Strategic Action Plan for Powered Two Wheelers 2009–2013 (The VRS PTW Plan). The Victorian action plan was prepared to be aligned with Victoria's overall Road Safety Strategy, which recognises the critical priorities of improving safety and congestion on Victorian roads. It therefore seems appropriate that similar consideration be provided in the MRSP 2013-2017.

c) Motor Scooters and motor cycles as the answer to the World's traffic congestion

Evidence shows the answer to the World's urban traffic congestion may be as simple as creating policies promoting the use of motor scooters and motor cycles. Figure 1 shows how if just 10% of all private cars are replaced by motor scooters and motor cycles, commuting times can be reduced by up to 40% for all road users.

It would therefore be disappointing and a missed opportunity if the MRSP 2013-2017 fails to adequately acknowledge and consider such important observations and is not revised accordingly.

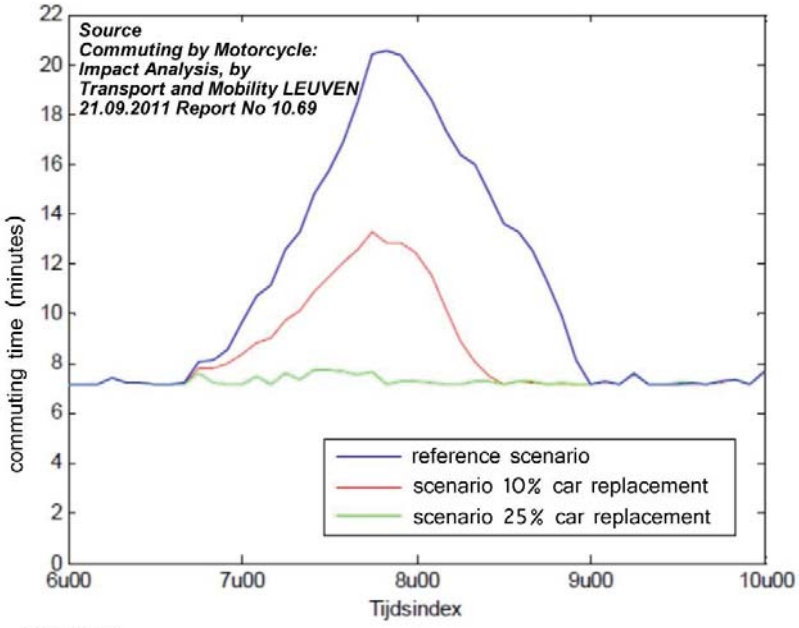


Figure 1

Travel times on the E40 between Leuven & Sint-Stevens-Woluwe/Woluwe Saint Etienne in the morning rush hour in the reference and two modal shift scenarios

This VSRA / RFL proposal identifies a definite link in the Melbourne CBD relating to traffic congestion and accidents involving motor scooters and motor cycles, in particular rear end collisions into two wheeled vehicles by cars.

The importance of reducing traffic congestion and the further separation of cars from motor cycles and motor scooters in the Melbourne CBD is considered, this in order to improve road safety for motor scooter and motor cycle riders as a matter of utmost importance.

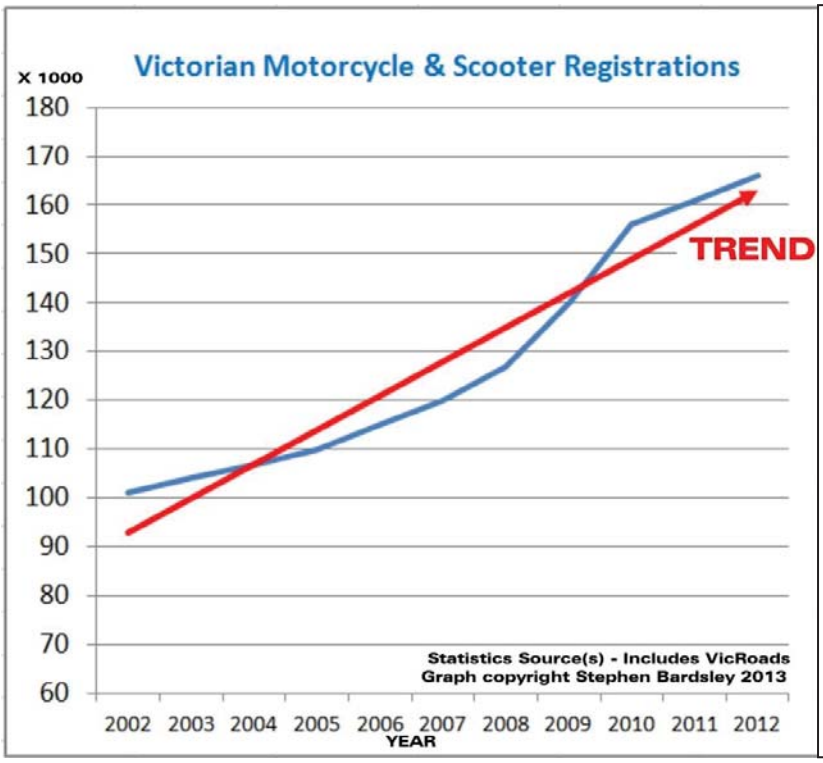
The VSRA believes the rapidly growing popularity and the benefits offered to traffic networks by motor scooters and motor cycles provide justification the draft MRSP 2023-2017 be amended to encourage their greater participation within the Melbourne transport network. It is proposed this can be achieved by ensuring Melbourne is seen as a safe and welcoming place for motor scooters and motor cycles.

2) A PRIORITISED AND INTEGRATED APPROACH
to motor scooter and motor cycle transport and safety

a) Motor scooter and motor cycle use increases by 70%

The number of motor scooters and motor cycles on Victorian roads has increased in each of the last ten years at a far greater rate than that of any other on-road motorised vehicles. As shown in Figure 2, the acceleration of motor scooter and motor cycle registrations during the last decade has been close to 70%.

With such significant growth in the number of motor scooters and motor cycles on our roads, there is a definite requirement to ensure they are given adequate consideration within the Melbourne transport network. The use of a motor scooter or motor cycle instead of a car not only significantly reduces congestion, but is also far more environmentally friendly, in particular when compared to a car without passengers, which account for the majority of traffic congestion in Melbourne.



There are more passenger vehicles without passengers in Melbourne's peak hour traffic than ever before. Car occupancy rates have dropped to just 1.2 persons per car. The number of Drivers fined for illegally driving in transit and Bus lanes increased by 60% in just one year.

The worsening congestion has seen a reduction in City travel speeds of 4km/h in ten years. The economic cost of Melbourne's traffic congestion has been estimated at more than $3 Billion a year and is expected to rise to $6 Billion by 2020. The potential savings replacing just 10% of cars with motor scooters or motor cycles would therefore be $2.4 Billion in the year 2020.

Figure 2 – Accelerating motor scooter & motor cycle registrations

A report published in the Melbourne Age on the 15th April 2013 discussed how the economic cost of Melbourne's traffic congestion has been estimated at more than $3 Billion a year and is expected to rise to $6 Billion by 2020. Based on these figures the potential savings replacing just 10% of cars with motor scooters and motor cycles would be $2.4 Billion in the year 2020.

The VSRA and RFL therefore propose initiatives to encourage greater use of motor scooters and motor cycles in the Melbourne CBD and request these be included in a revised MRSP 2013-2017 as they will provide greater financial benefits than could other actions such as increasing congestion charges.

b) Free parking permits for residents owning motor scooters and motor cycles

The increase in registrations of motor scooters and motor cycles in Melbourne has been greater than that for any other category of vehicle. The VSRA and RFL propose that to assist the integration of these "new generation" vehicles, all Melbourne CBD residents having a registered motor cycle or scooter should receive a free parking permit, allowing free parking in close proximity to their residence.

2) A PRIORITISED AND INTEGRATED APPROACH
to motor scooter and motor cycle transport and safety (continued)

c) Filtering

The VSRA believes the increasing popularity of motor scooters and motor cycles requires the introduction of new road safety initiatives to better integrate such vehicles into the urban traffic network. One such important initiative is Filtering. This is where two wheeled vehicles safely pass alongside other stationary vehicles to progress towards the front of traffic queues. The VSRA and RFL note that:

► The practice of motor scooters and motor cycles Filtering is not new and a Filtering trial is currently underway in the Sydney CBD.

► Filtering by motor scooters and motor cycles improves road safety for all vehicles by significantly reducing traffic congestion and the potential "rear ending" of motor scooters and motor cycles by larger four wheel vehicles.

► When Filtering; motor scooters and motor cycles reduce traffic congestion, greenhouse gas emissions and air pollution created by all vehicles.

The VSRA appreciates Filtering is a matter requiring consideration and authorisation by the statutory road safety authority VicRoads and until legalised the MCC cannot introduce this traffic manoeuvre in Melbourne. It is suggested however that the MCC support the proposal for a Filtering Trial to be conducted in the Melbourne CBD, this to be similar to the trial currently underway in the Sydney CBD.

A review of the benefits and risks of Filtering has been proposed by the Victorian Parliamentary Road Safety Committee and recommendation No 59 resulting from the 2012 Parliamentary Inquiry into Motorcycle Safety (PIMS) proposes this review be conducted with the aim of introducing Filtering in Victoria. It is hoped the MCC will support this recommendation in the MRSP.

The VSRA supports Lane Filtering as a sensible and safe method of lane sharing on Victorian Roads and which will advantage all road users and the community as a whole. It is also proposed that support for a Filtering review and a CBD Filtering Trial be included in the MRSP.

d) Bus Lane Sharing

An extensive motor scooter and motor cycle Bus lane sharing trial was recently conducted in Hoddle Street, Richmond by VicRoads. It is believed the trial has proven Bus lane sharing is safe and provides benefits to all road users.

The VSRA therefore proposes the MCC request from VicRoads information from the Hoddle Street Bus Lane Trial which favours lane sharing and this to be included in the MRSP 2013-2017.

The VSRA supports the use of Bus Lane sharing by motor scooters and small motorcycles as a sensible and safe method of lane sharing on Victorian Roads and as an initiative that advantages all road users.

A Trial recently conducted by VicRoads in Hoddle Street, Victoria is believed to have proven that the sharing of Bus Lanes is safe and provides benefits to all road users. The VSRA believes allowing motor scooters and Learner Approved Motor Cycles to use Bus Lanes will benefit all road users. We therefore propose the MCC request from VicRoads information from the Hoddle Street Bus Lane Trial seen to support lane sharing and this be included in the MRSP 2013-2017.

3) THIS TOWN IS BIG ENOUGH FOR ALL OF US

greater inclusion of motor scooters and motor cycles in the Melbourne traffic system

a) The clearly articulated goal of the MRSP 2013-2017 Plan was to:

"Create a safe, comfortable and richly engaging urban environment where pedestrians, cyclists and motorcyclists are welcomed and supported through world leading road safety practices".

Figure 3 - The stated intention ▲

The MRSP 2013 – 2017 appears well prepared and capable of achieving the goal to "Create a safe, comfortable and richly engaging urban environment where pedestrians, cyclists and motorcyclists are welcomed and supported" but only for pedestrians and cyclists. The VSRA believes the plan is unlikely to meet this objective in regard to motor scooters and motor cycles. This is because only 7 of the 48 initiatives in the MRSP are relevant to meeting the desired objectives for motor cycles and motor scooters. The MRSP contains only 3 proposed actions to enhance the safety of motor scooter and motor cycle riders, yet 15 for cyclists and 15 for Pedestrians. The VSRA and RFL believe the plan in its current format is imbalanced to greatly favour pedestrians and cyclists at the expense of motor scooters and motor cycles. The VSRA and RFL suggest proposals that if included will better balance the MRSP 2013 - 2017.

The VSRA and RFL believe motor scooter and motor cycles have either by design or perhaps inadvertently not been provided with adequate consideration within the draft MRSP. Motor scooter and motor cycle use within the Melbourne CBD appears to have been overlooked in favour of pedestrians and cyclists. The VSRA and RFL therefore propose both the current and any future imbalance relating to motor scooter and motor cycle use in the Melbourne CBD be addressed, commencing with a new strategic direction providing greater consideration and inclusion for their use in the MRSP 2013-2017.

Figures 4 and 5 - The reality ▲ *▲ Little Collins Street*

b) Footpath Parking

In Melbourne it has been announced to ensure streets are kept safe for all users, motorcycle parking on the footpath has been banned in three popular motor scooter / motor cycle parking locations:

- ► Collins Street, south side footpath, between Exhibition Street and George Parade
- ► Flinders Lane, south side footpath, between Port Phillip Arcade and Elizabeth Street
- ► Exhibition Street, west side footpath, adjacent to Her Majesty's Theatre.

Signs at these three and other locations within the Melbourne CBD have been erected by the MCC prohibiting motorcycle parking on the footpath, including where this was previously allowed. The VSRA proposes the MRSP make provision for increased footpath, centre of road and undercover parking.

3) THIS TOWN IS BIG ENOUGH FOR ALL OF US
greater inclusion of motor scooter and motor cycles in Melbourne (continued)

c) Motor Scooters and motor cycle riders unfairly discriminated against

Some of the justifications for banning motorcycle and motor scooters from parking on some Melbourne footpaths are believed by the VSRA to have unfairly discriminated against responsible motor scooter and motor cycle riders, this to favour irresponsible Pedestrians. A better proposition would have been to consult with motorcycle and scooter advocacy groups and prepare a revised code of conduct for motor scooter and motor cycle parking in designated areas and then educate Pedestrians to stay clear of these areas.

The justification for banning motor scooter and motor cycle parking was based on a supposed thorough assessment, including the following criteria:

- The concentration of pedestrian movements in the area
- Existence of kerbside activities such as outdoor cafes and stalls
- The impact on urban amenity

This advertisement "Lambs to the slaughter" was released by the Pedestrian Council of Australia in 2007 to demonstrate that irresponsible Pedestrians using mobile telephones and iPods are not only a danger to themselves but also other street and road users.

Six years later little has changed and the response has been? To reduce footpath parking for responsible motor scooter and motor cycle riders!

Figure 6 - Lambs to the slaughter – Pedestrians listening to iPods and using mobile telephones

This "thorough" assessment has however resulted in less emphasis being placed on pedestrians to take responsibility for their own actions. It is now increasingly common to see pedestrians in Melbourne ignoring traffic signals, walking into parked motorcycles, walking into the path of oncoming traffic, walking between parked cars, walking across roads using a mobile telephones and iPods, walking through traffic wearing earphones. Melbourne road safety initiatives have not achieved better behaviour by pedestrians, but have instead targeted the wrong "culprits" and have banned motor scooter and motor cycle parking on certain footpaths, this is believed to have unfairly disadvantaged responsible motor scooter and motor cycle riders.

Under such circumstances there seems a dichotomy in the draft Melbourne Road Safety Plan 2013-2017 when it states in section 7.4 that; a desired outcome is:

"By 2017 Melbourne is a city for people where motorcyclists feel welcomed and supported through safe, comfortable roads, and on-street and off-street parking".

The VSRA acknowledges that *"educating pedestrians to change behaviour to reduce crossing at illegal locations or against red lights"* is a key issue identified by the public as included in the draft MRSP. However it is believed if the MCC is to demonstrate it is serious about ensuring greater inclusion of motor scooter and motor cycle use in Melbourne, then a revised MRSP will need to include more initiatives that will genuinely encourage motor scooter and motor cycle riders to commute to and within the Melbourne CBD. Banning footpath parking at popular locations and using the justification this is to make Melbourne safer for pedestrians is clearly not such an initiative.

It is therefore proposed by the VSRA and RFL that the MRSP will acknowledge there are to be no further bans on footpath parking without consultation with motor scooter and motor cycle advocacy groups.

3) THIS TOWN IS BIG ENOUGH FOR ALL OF US
greater inclusion of motor scooter and motor cycles in Melbourne (continued)

Walkers stand to win right of way

This article was published in the Melbourne Age and clearly shows the opinion that the draft MRSP 2013-2017 favours pedestrians and cyclists at the expense of other road users.

The VSRA and RFL do not question the intention to make Melbourne's roads safer for pedestrians, but do not believe the perception that the City will be given over to any single sector of roads users is desirable or fair.

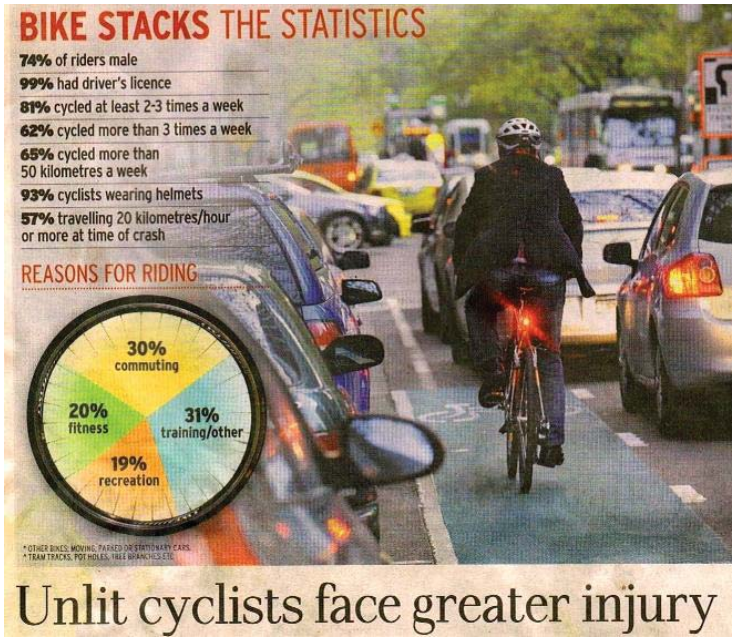
Any Road Safety Plan should be seen as equitable to all road users and it is hoped the MRSP can be amended to be seen as so.

Figure 7 - A road safety plan promoting a pedestrian & cycling-friendly city to be voted on by City of Melbourne councillors

d) The CBD for recreation or business?

The VSRA believes banning motorcycle and motor scooters from parking on some Melbourne footpaths is discrimination against responsible riders. We are also surprised how at the same time footpath parking has been noticeably increased for cyclists. The VSRA acknowledges cyclists as an important part of the urban traffic network, we do not believe however that motor scooter and motor cycle parking places should be lost to cyclists, we therefore propose the MRSP 2013 – 2017 should be seen as fair to all road users.

Also of concern to the VSRA and RFL is how the Melbourne CBD appears to be catering more for recreational road users at the expense of those working, commuting or conducting business in the City. The Melbourne CBD is just that, a **C**entral **B**usiness **D**istrict and so road users commuting and working within the City should not be disadvantaged in favour of those partaking in recreational activities, this particularly during business hours Monday to Friday. It was identified in the Melbourne Age Newspaper that 70% of Melbourne cyclists use their bicycles for activities related to recreation, sport, fitness and training and only 30% of bicycles are used for commuting. The VSRA proposes that the MRSP will ensure no footpath parking is lost by motor scooter and motor cycle riders to provide additional parking for cyclists.



Statistics show that only 30% of Melbourne's cyclists are commuters, the vast majority instead participating in recreational, sporting, training, fitness and other non commuter or business related activities.

The VSRA is concerned the MRSP 2013–2017 in its current format favours recreational road users at the expense of those commuting and undertaking business related activities in the Melbourne CBD.

The VSRA recommends a revised MRSP that will not see the Melbourne CBD designed as a pedestrian and recreational haven at the expense of commuters and those undertaking business related activities.

Figure 8 – Melbourne Age, 27th July 2012

3) THIS TOWN IS BIG ENOUGH FOR ALL OF US
greater inclusion of motor scooter and motor cycles in Melbourne (continued)

e) Benefits of motor scooters and motor cycles are greater than currently appreciated

It has been identified that if just 10% of all private cars are replaced by motor scooters and motor cycles, commuting times can be reduced by up to 40% for all road users. In addition the road space required and the mode of operation for motor scooter and motor cycles is very similar to that for cyclists. Therefore the VSRA proposes that whenever a road safety or related initiative is considered by the MCC for cyclists, it should also be considered if the initiative is also appropriate for motor cycles and scooters.

In many cases adopting the same or similar initiatives for motor scooters and motor cycles as for cyclists, will provide far greater road safety, economical and environmental benefits to the City of Melbourne, its citizens, visitors and all road users. The VSRA believes this understanding of the benefits offered by motor scooters and motor cycles has not been adequately considered in the draft MRSP 2013-2017 and it therefore should be amended accordingly to do so.

Adopting the same or similar initiatives for motor scooters and motor cycles as for cyclists, can provide far greater road safety, economical & environmental benefits to the City of Melbourne, its citizens, visitors and all road users.

Figure 9 - Motor Scooters and Motor Cycles outside the Melbourne Town Hall

f) Reduced traffic congestion assists road safety

Evidence shows that a 25% shift from cars to motorcycles in a major city can eliminate congestion entirely. The VSRA appreciates this would disadvantage other road users and therefore does propose such a reduction, but makes the point to show how the advantages offered by motor scooters and motor cycles are often ignored because the benefits they offer are frequently not understood or appreciated.

Reductions in traffic congestion can be directly linked to improved road safety; in August 2012 the NSW Police Commissioner Andrew Scipione said police understood the frustration felt by motorists when confronted by congestion. *"We know all too well impatience can lead to frustration and taking unnecessary risks,"* Commissioner Scipione said." In August 2012 the NSW Government introduced motorcycle police to reduce traffic congestion and improve road safety, this resulted in the NSW Police Minister being able to advise the trial achieved impressive results and saying *"During the three week trial of two police motorcycles in the CBD there was a 72 per cent reduction in queuing through intersections, a 25 per cent drop in rear end crashes and a 16 per cent drop in illegal turns."* As shown in the draft MRSP 2013-2017 rear end crashes are highly prevalent in Melbourne and any reduction in congestion due to the greater use of motor scooters and motor cycles will help ensure they are significantly reduced. The VSRA and RFL therefore propose the MRSP 2013-2017 be amended wherever possible to encourage greater use of motor scooters and motor cycles in Melbourne and the CBD.

4) INCREASING SAFETY FOR MOTOR SCOOTER AND MOTOR CYCLE RIDERS in the MRSP and all future MCC transport policy and planning

Ride for Life (RFL) motor scooter rider training is an initiative of the Lambretta Club of Australia, which is a member Club of the Victorian Scooter Riders Association (VSRA). The RFL practical and theoretical rider training courses are conducted by a qualified motor cycle rider Trainer and trained Assessor. RFL is operated by volunteers who offer their services to train motor cycle and scooter riders free of charge, their only motivation being to educate riders so they may become safer on Melbourne roads.

Whist RFL acknowledge the work and the many positive initiatives contained in the MRSP, they like the VSRA are of the opinion it shows a greater consideration for the protection of pedestrians above all others. RFL is particularly concerned this is despite the draft MRSP 2013- 2017 identifying that compared with the MRSP 1997- 2002 the proportion of crashes involving motor scooter and motor cycle riders has increased 5% in the municipality and 7% in the central city and that motor scooter and motor cycle riders are significantly more exposed to risk than both pedestrians and cyclists.

Figure 10 - A Ride for Life (RFL) practical rider training session

RFL
RIDE FOR LIFE TRAINING

RFL volunteers offer free practical and theoretical rider training to motor scooter riders, their only motivation is to educate riders so they are safer on Melbourne roads.

RFL is willing to assist the MCC help improve the safety of motor scooter and motor cycle riders in Melbourne and the CBD on a volunteer, no charge basis.

Of particular concern to both the VSRA and RFL are the increasing number of same direction rear end collisions between other vehicles and motorcycles. These accidents are no fault of riders, as many occur when motor scooters and motor cycles are stationary waiting at traffic signals. As shown in Figure 12, they are now the second most prevalent type of accident involving motor scooters and motor cycles.

Figure 11 – A motorcycle is rear ended and sandwiched between two cars

Collisions that are no fault of motor scooter or motor cycle riders, such as this same direction "rear ending" are on the increase and are now the second most prevalent of all accidents involving a motor scooter or a motor cycle in Melbourne.

Rear end same direction collisions now represent 12% of all Melbourne motor Scooter and motor cycle accidents. The VSRA and RFL will propose initiatives to greatly reduce such accidents.

4) GREATER SAFETY FOR MOTOR SCOOTER AND MOTOR CYCLE RIDERS in the MRSP and all future MCC transport policy and planning

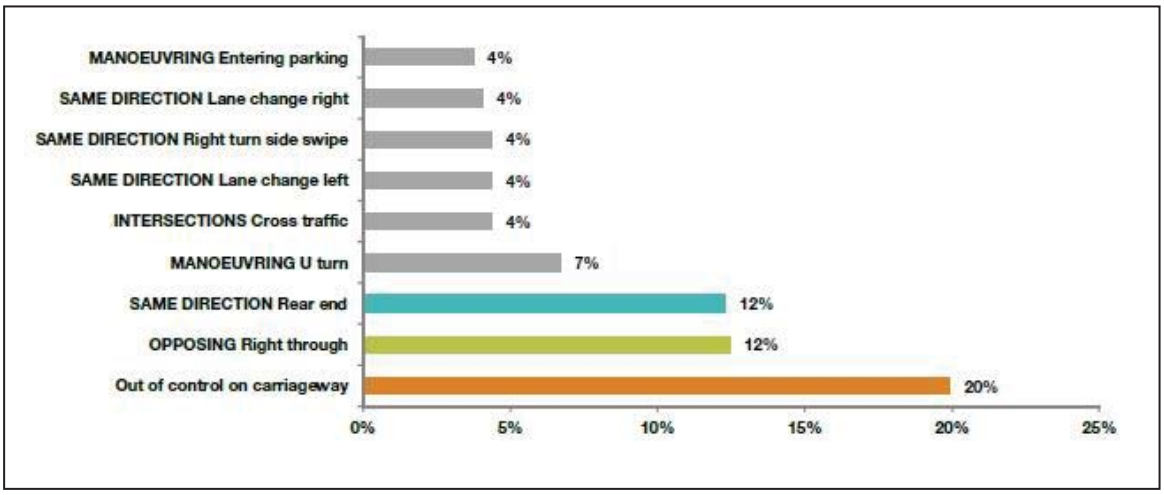
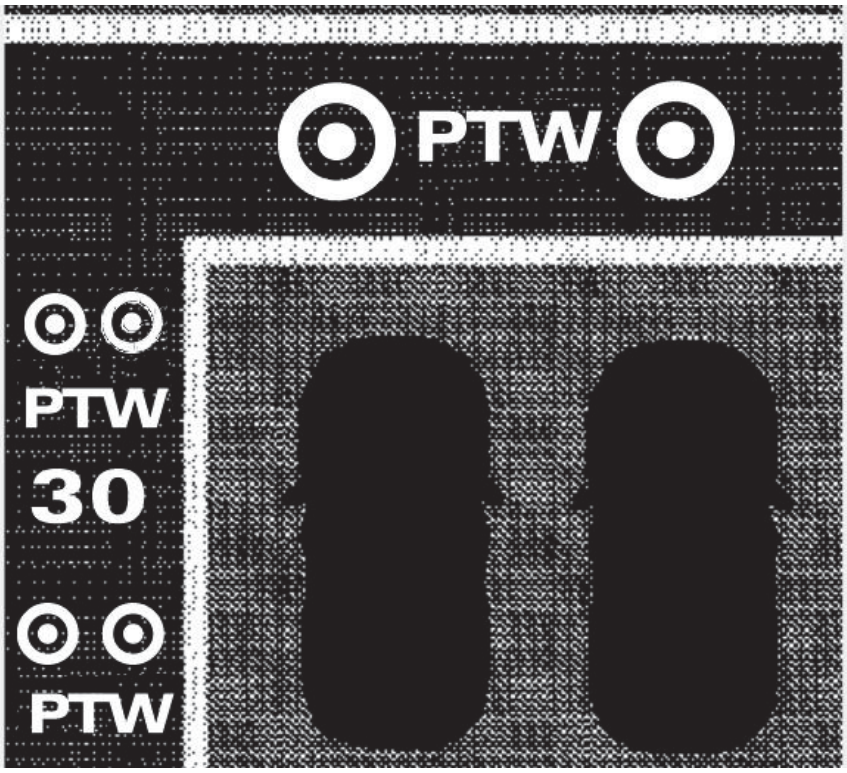


Figure 12 – Type of Melbourne motor cycle crashes (Source: Draft MRSP 2013 – 2017)

a) Reducing the incidence of rear end collisions with PTW Lanes

The VSRA and RFL believe rear end collisions involving motor scooter and motor cycles can be reduced throughout Melbourne by introducing Powered Two Wheeler (PTW) lanes for motor scooters and smaller motor cycles approved under the Learner Approved Motorcycle Scheme (LAMS). The PTW lanes would be positioned adjacent to roads where there is sufficient space or where space can be made to accommodate them. A priority would be to first install PTW lanes at known motor scooter and motor cycle black spots. Also the introduction of PTW boxes at the front of intersections will help reduce rear end collisions. One of the manoeuvres motor scooters and small motor cycles perform best due to their power to weight ratio, is to move quickly from a stationary position. PTW boxes will reduce congestion and also ensure motor scooter and motor cycles are not “sitting ducks” for rear end collisions when waiting in front of cars at traffic signals.

The PTW lanes will ensure two wheeled vehicles will not have to filter between other vehicles and they could be shared by two/three wheeled vehicles and bicycles. To be practical PTW lanes would be at least 1200mm wide and have a maximum speed limit of 30 km/h *(or a width and maximum speed determined after evaluation by MCC traffic engineers).*



The introduction of PTW lanes is not a proposal that all existing bicycle lanes be used as PTW lanes. Recreational bicycle lanes would be strictly off limits and PTW lanes would only be used where roads are wide enough to accommodate PTW lanes.

PTW lanes would only be for use by motor scooters and smaller motor cycles approved under LAMS. Motor scooter and motor cycle riders would make a concession to voluntarily reduce speed to 30 km/h when using PTW lanes no matter what the prevailing speed limit on the adjacent road.

The overtaking of bicycles in PTW lanes would only be allowed when circumstances dictate it is safe to do so.

Figure 13 – PTW Lanes and Boxes for motor scooters and small motor cycles

a) Reducing the incidence of rear end collisions with PTW Lanes (continued)

It should be noted that the proposal for the introduction of PTW lanes in Melbourne and the CBD is not a proposal to use all existing bicycle lanes as PTW lanes, in fact only non recreational bicycle lanes of a suitable width should be considered suitable to meet PTW lane requirements. However; wherever possible and whenever new bicycle lanes are proposed it could be considered if a PTW lane would be a more appropriate alternative than a dedicated bicycle lane, this to better utilise Melbourne's scarce and valuable road resources.

The PTW option would not only provide a more equitable allocation of road resources, but would also increase safety for a much larger number of identified vulnerable road users. As per Figure 13, PTW lanes and boxes would be clearly marked to indicate they are off limits to any non PTW type vehicles. Motor scooter and motor cycle riders would have to make a concession to voluntarily reduce speed to only 30 km/h when using PTW lanes, this no matter what the prevailing speed limit on the adjacent road. The overtaking of bicycles by any powered vehicles in PTW lanes would only be allowed when circumstances dictate it is safe to do so.

b) Reducing the incidence of rear end collisions with PTW early start get-away

Early-start getaways would in the same manner as the proposal for dedicated PTW lanes and Traffic Boxes further improve road safety for motor scooter and motor cycle riders as vulnerable road users. They would also ease traffic congestion. PTW early get-away traffic signals could be used at all intersections and not just those controlling intersections with PTW Lanes and Boxes.

The method of operation could be via the VicRoads intelligent and dynamic traffic control system known as **SCATS** (**S**ydney **C**oordinated **A**daptive **T**raffic **S**ystem), which currently controls more than 3,700 traffic signals throughout Victoria and which is able to provide priority to selected vehicles, in particular trams and buses. Over 500 intersections in metropolitan Melbourne now have tram priority set by SCATS. At some key intersections SCATS is also used to give buses priority so they may clear the intersection and not delay, or be delayed, by other traffic, the same system could be used to provide priority to PTW's.

A proposed PTW early get-away sequence

- RED prohibits any traffic from proceeding
- AMBER denoting prepare to stop
- FLASHING GREEN gives 10 second start to PTW's
- GREEN allows traffic to proceed when safe to do so

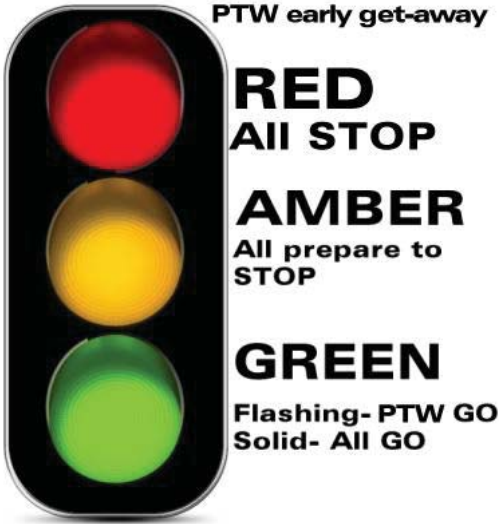


Figure 14 – PTW Early get-away traffic signals

Traffic system such as SCATS are designed to dynamically manage traffic in real time, they attempt to find the optimal phasing for any given traffic situation *(for individual intersections as well as for the whole network).* The systems typically use sensors installed within the road at each traffic signal to detect vehicle presence in each lane. Such sensors could be installed in the proposed PTW Lanes and Boxes and also at other intersections. Used in conjunction with the PTW Lanes and Boxes the PTW early get-away systems have the capability to eliminate 12% of accidents involving motor scooters and motor cycles in Melbourne.

Considering all the information contained in the previous pages of this report the VSRA and RFL propose when amending the MRSP 2013-2017 and designing, redesigning, constructing and maintaining Melbourne's road network it will be highly advantageous for the MCC to consider and encourage motor scooter and motor cycle access, parking, priority and safety requirements.

VSRA / RFL PROPOSALS OVERVIEW

The seventeen (17) proposals from the VSRA and RFL for inclusion in a revised MRSP 2013-2017 to allow Melbourne as a City to benefit from greater motor scooter and motor cycle use include:

1) Introduction of PTW Lanes and Boxes for motor scooters and smaller LAMS approved motor cycles
2) PTW early start get-away for motor scooters and smaller LAMS approved motor cycles
3) Eliminate black spots, in particular those on popular motor scooter and motor cycle routes
4) Increase footpath, centre of road and undercover parking
5) The MRSP to include support for the PIMS review of the benefits and risks of Filtering
6) Support the introduction of Bus Lane Sharing for motor scooters and LAMS
7) Request VicRoads for data from the Hoddle Street Bus Lane Trial (for inclusion in the MRSP)
8) Encourage a shared responsibility by all road users and not be seen to favour any particular sector
9) Free parking permits for Melbourne residents owning motor scooters and motor cycles
10) Support engineering practices and road maintenance procedures that will improve safety for riders
11) Encourage greater use of motor scooters & motor cycles within Melbourne & the CBD
12) Whenever any road safety or related initiative is considered for cyclists or pedestrians, it also be considered if appropriate for motor cycles and scooters
13) The plan should commit to road safety promotions that include all road users *(see Figure 15 below)*
14) The MRSP is to ensure footpath parking is not lost by motor scooter and motor cycle riders to provide additional parking for cyclists
15) The MRSP is to acknowledge there will be no further bans on footpath parking without consultation with motor scooter and motor cycle advocacy groups
16) The Melbourne CBD should not be designed as a pedestrian and recreational haven at the expense of commuters and those undertaking business related activities.
17) Recommend the MCC undertake and facilitate ongoing consultation with PTW advocacy groups

Footnote:
The VSRA and RFL believe the aim of any road safety plan should be to consider all road users and to encourage their involvement and ownership of the plan. The overriding message might be that Melbourne is a place big enough for everyone and that together with a sense of shared responsibility we can all help make our City a better and safer place for all road users, residents, commuters and visitors. The VSRA and RFL remain available to assist the MCC with the monitoring and evaluation process of the MRSP and to provide support for any other programs relevant to the safety of motor cycle and motor scooter riders.

Figure 15 – Suggested graphic for a MCC road safety campaign

Submission from Destination Melbourne

Submission received on 14 November 2012:

The submission included a report titled:

"A review of integrated visitor transport in Melbourne", June 2010

Prepared for Destination Melbourne, www.destinationmelbourne.com.au

by Paul Matthews, ttchoice consulting

The report strongly recommends the implementation of Pedestrian Scramble crossings at the following intersections:

- Latrobe and Swanston Street (Melbourne Central Station access)
- Spencer and Collins Street (Southern Cross Station access)
- Spencer and Bourke Street (Southern Cross Station access)
- Flinders and Swanston Street (Flinders Street Station / Federation Square)

The other relevant key recommendations are that:

- Significant walking tracks and tours become part of the Melbourne Explorer brand with logo recognition on selected tracks and places of historical/cultural significance.
- Count down times recommended to be installed at all major intersections so pedestrians know how long they will be required to wait. A recent STAYSAFE recommendation in NSW called for an urgent trial to increase pedestrian safety and reduce anxiety.
- Mobility taxis be included under the Melbourne Explorer brand to ensure that no person is excluded from visiting Melbourne's attractions. Being part of the brand would also ensure the driver is suitably trained in visitor information.
- Priority visitor hotline investigated for mobility impaired visitors to Melbourne.
- Consideration should be given for existing river boat operators to become part of the Melbourne Explorer brand by meeting the agreed operational and customer service guidelines.

Blind Citizens Australia

POLICY STATEMENT

AUDIBLE TRAFFIC SIGNALS

Amended 17 March 2010

Blind Citizens Australia
Ross House
247 - 251 Flinders Lane
MELBOURNE VIC 3000
Phone: (03) 9654 1400 / 1800 033 660
TTY: (03) 9376 9275
Fax: (03) 9650 3200
E-mail: bca@bca.org.au
Web: www.bca.org.au

PREAMBLE

1. Blind Citizens Australia points out that people who are blind or vision impaired have the same rights as others to cross roads with safety and dignity. As audible and tactile traffic signals are vitally important to safe and independent travel for people who are blind or vision impaired, it is essential that at the local level, authorities consult with people who are blind and vision impaired in matters concerning the location, installation, use and maintenance of audible and tactile traffic signals. In areas covered by Blind Citizens Australia Branches or Organisational Members, they should be consulted. In areas not covered by BCA local membership bodies, authorities should consult with Blind Citizens Australia through its National Office.

2. Blind Citizens Australia will work for the development and implementation of appropriate Australian Standards and Federal, State and local laws to regulate the design, siting, installation and maintenance of Audible and tactile traffic signals.

3. We regard education about the rights and needs of pedestrians who are blind and vision impaired as fundamental to our safe and independent travel and as the responsibility of all Governments.

Blind Citizens Australia supports the United Nations Convention on the Rights of Persons with a Disability. In particular, Article 9 relates to this policy.

Article 9 UNCRPD - Accessibility

1. To enable persons with disabilities to live independently and participate fully in all aspects of life, States Parties shall take appropriate measures to ensure to persons with disabilities access, on an equal basis with others, to the physical environment, to transportation, to information and communications, including information and communications technologies and systems, and to other facilities and services open or provided to the public, both in urban and in rural areas. These measures, which shall include the identification and elimination of obstacles and barriers to accessibility, shall apply to, inter alia:

a. Buildings, roads, transportation and other indoor and outdoor facilities, including schools, housing, medical facilities and workplaces;

b. Information, communications and other services, including electronic services and emergency services.

2. States Parties shall also take appropriate measures to:

a. Develop, promulgate and monitor the implementation of minimum standards and guidelines for the accessibility of facilities and services open or provided to the public;

b. Ensure that private entities that offer facilities and services which are open or provided to the public take into account all aspects of accessibility for persons with disabilities;

c. Provide training for stakeholders on accessibility issues facing persons with disabilities;

d. Provide in buildings and other facilities open to the public signage in Braille and in easy to read and understand forms;

e. Provide forms of live assistance and intermediaries, including guides, readers and professional sign language interpreters, to facilitate accessibility to buildings and other facilities open to the public;

f. Promote other appropriate forms of assistance and support to persons with disabilities to ensure their access to information;

g. Promote access for persons with disabilities to new information and communications technologies and systems, including the Internet;

h. Promote the design, development, production and distribution of accessible information and communications technologies and systems at an early stage, so that these technologies and systems become accessible at minimum cost.

3. In this Policy the term “people who are blind " includes both people who are totally blind and people whose degree of vision impairment affects their ability to travel safely and independently.

SITES AND THEIR SELECTION

4. Audible traffic signals which meet the Standards implied in this Policy should be installed on all poles at all sites where visual traffic signals are installed. A set budget allocation should be earmarked each year for this purpose. It should be Government policy to install audible traffic signals whenever visual traffic signals are installed. Sites for the installation of audible traffic signals should be selected on the basis of consumer demand, i.e. in consultation with people who are blind or vision impaired and their representative consumer organisations. Sites should not be selected only on the basis of pedestrian counts or traffic usage. Governments should not select particular types of sites to the exclusion of others, e.g. sites where all traffic flow is stopped and pedestrians walk in both directions.

INSTALLATIONS

5. Audible traffic signals should emit a slow beat for "don't walk" and a fast beat for "walk". Signals should emit a sound at all times and should not need to be activated by the pressing of a button. The sound of the signal should be clearly audible from a distance of 8 metres, and should comply with the national standard as to volume and frequency. In areas in which Blind Citizens Australia Branches or Organisational Members exist, they should be consulted as to proposed installation sites and the types of signals and sounds to be used.

6. The components of an audible traffic signal should comply both in structure and performance with the relevant Australian Standards. These are currently: AS1742.10 Clause 12 "Provisions for Disabled Pedestrians", and AS2353 of 1992 "Pedestrian Push Button Assemblies"

Clause 10 "Audible Signals". Copies of the relevant clauses of these Standards are attached to and form part of this Policy.

MAINTENANCE

7. A set amount should be earmarked in each budget for the maintenance of audible traffic signals as part of the allocation for the maintenance of visual traffic signals. The audible traffic signals should receive priority in maintenance. Authorities should publicise a telephone number to which faults may be reported, and they should have faults rectified promptly.

8. Audible traffic signals should be switched on and be operative 24 hours a day. If an authority finds it necessary to turn off the sound (e.g. for maintenance), affected people who are Blind or vision impaired should be advised in advance, if practical, through their organisations and via radio announcements. Where installations are within 50 metres of houses, the sound may be turned down, but not off.

ANNEX TO POLICY STATEMENT ON AUDIBLE TRAFFIC SIGNALS

EXTRACT FROM AS2353 AUSTRALIAN STANDARD PEDESTRIAN PUSH-BUTTON ASSEMBLIES

10 AUDIBLE SIGNALS

10.1 General requirements

Where required, facilities shall be provided for the generation of audible signals in accordance with Clauses 10.2 and 10.3. Components utilised in the provision of the audible signals shall be rated for operation within the temperature range of -10C to 65C.

NOTES:

1 The purchaser must specify whether facilities for the generation of audible signals are required (See Item C), Appendix A). The device generating the audible signal need not be an integral part of the push-button assembly but, where separate, it should be installed on the same traffic signal post.

2 The characteristics of the audible signal should take into account:

(a) Requirements for auditory localisation;

(b) The prevalence of frequency-dependent hearing impairment;

(c) Masking of signals by ambient noise; and

(d) Adverse environmental effects, e.g. noise pollution.

See HULSCHER, F.R., Traffic signal facilities for blind pedestrians, Proceedings of Australian Road Research Board, 1976, Vol. 8, Pt 5.

3 A fail-safe arrangement should be provided between the visible and the audible signals to ensure that no conflicting indications can arise.

10.2 Required characteristics

Provision shall be made for the generation of two types of audible signal, namely:

(a) A `WALK' signal having a repetition rate of between 8 Hz and 16 Hz; and

(b) A `DON'T WALK' signal having a repetition rate of between 0.5 Hz and 1 Hz.

The peak A-weighted sound pressure level of the audible signals shall not exceed 85dB (relative to 20 upas) in any direction, when measured under the conditions specified in Clause 10.3. Facilities shall be provided for adjustment of the sound pressure level up to a setting which just ensures compliance with a specified maximum.

10.3 Measurement conditions

The sound pressure levels of the audible signals shall be measured:

(a) With the assembly mounted in the manner for which it is designed;

(b) Under free-field conditions;

(c) using a sound level meter complying with the requirements for Type 1 meters specified in AS1259, with frequency-weighting characteristic A and time-weighting characteristic P; and

(d) At a distance of 1 m from the assembly, and 1.5 m above ground.

EXTRACT FROM AS1742.10 AUSTRALIAN STANDARD
MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES
PART 10: PEDESTRIAN CONTROL AND PROTECTION

12 PROVISIONS FOR DISABLED PEDESTRIANS

12.1 General information

General information about providing services for the disabled is given in AS1428. In addition, the following points should be specifically considered when providing for disabled pedestrians.

12.2 Kerb crossings

Kerb crossings should be provided without a drainage lip. Where pedestrian refuges are provided, the crossing point should not have kerbing but should be at the same level as the adjacent carriageway. For the design of kerb crossings for disabled pedestrians see AS1428.

12.3 Audio-tactile signals

Visually handicapped pedestrians can be assisted to locate pedestrian actuated signals, and to know when the pedestrian phase is operating, by the installation of audio-tactile devices in the pedestrian button assembly. These devices emit an audible clicking sound and may include a tactile pulse. During the pedestrian phase the device operates at a much higher frequency than when in its resting mode thus providing a clear message to the visually handicapped person.

12.4 Tactile paving

Tactile paving has been designed for use on footpaths and refuges in the vicinity of crossings to impart information to the blind or poorly sighted by means of a specially textured surface. The texture has three functions:

(a) It helps blind people find the crossing point;

(b) in the case of crossings having pedestrian signal control it helps blind people find the pedestal carrying the pedestrian push-button; and

(c) It enables blind people, while waiting to cross, to align themselves in the direction in which they should proceed.

The last function is of particular importance where a ramp and dropped kerb have been provided for the benefit of wheelchair users and people with baby carriages, as the blind person no longer has the benefit of a raised kerb to provide this cue.

The surface used for this purpose has to meet several requirements. It must be detectable underfoot, because guide-dogs and long canes are searching for obstacles rather than for changes in the surface; and it must be reliably detectable even to people wearing thick soled shoes or those who suffer from reduced sensitivity in their feet. It should be simple and cheap to install and maintain; should contrast in colour from adjacent surfaces and needs to be distinct from surfaces used for other purposes.

A number of textured paving bricks or tiles are now available. One type has a grid pattern of raised nodules, either on a brick or on a flat tile. The other type has parallel ridges running across the brick or tile.

At pedestrian refuge islands, two or three rows of textured slabs should be laid across the pedestrians' path through the island flush with the carriageway surface. Wherever it is proposed to install textured surfaces, local organisations representing disabled people should be consulted.

Blind Citizens Australia Position Statement
Silent Vehicles

July 2008

BACKGROUND

In recent years, silent or near-silent vehicles such as hybrid electric cars and motorbikes have become more commonplace. Their popularity has grown along with increased public concern regarding climate change and fuel scarcity. It is expected that usage of silent vehicles will continue to flourish.

This trend is of great concern to people who are blind or vision impaired around the world because it increases the safety hazards already present in pedestrian travel. At the moment, a pedestrian who is blind or vision impaired can usually hear a car approaching because of the noise its engine makes. This means that even if there are no other safety precautions such as audiotactile crossing indicators someone who is blind or vision impaired can cross a road independently and be relatively assured of their safety. If vehicles become silent, this will no longer be the case.

Because the adoption of silent vehicles is a recent trend, there has been little research done to examine the best ways to ensure the safety of people who are blind or vision impaired while allowing a large number of silent vehicles on roads and footpaths. Options which may help include:

(a) Fitting the vehicles with a noise-making device which can be heard from a distance. This option raises concerns that there will be higher levels of noise pollution, or that the sound will be ineffective on busy roads.

(b) Providing a device for people who are blind or vision impaired to carry which would indicate that a vehicle is oncoming. This option raises concerns that people who are blind or vision impaired already carry a great deal of adaptive equipment.

(c) Changing road safety laws to ensure that pedestrian safety is given priority. This option leaves the onus upon drivers who may be more or less educated about their responsibilities.

POSITION

Given the lack of information about which solution or combination of solutions is best, Blind Citizens Australia does not support any longer term solutions at this stage. Rather, we call upon the State, Territory and Federal Governments and motoring sector to:

1. Provide funding for research into the most effective methods to enable people who are blind or vision impaired to be safe on roads and walkways which are used by silent vehicles;
2. Provide resources to monitor both statistical and anecdotal evidence of issues with silent vehicles. To assess the impact on people who are blind or vision impaired will mean examining both the safety of silent vehicles and the impact their existence has on day-to-day mobility; and
3. Be innovative in shaping best practice in pedestrian safety through:
    a. Education campaigns targeted at the drivers of silent vehicles. This should be an immediate priority when governments undertake schemes to promote silent vehicle adoption by offering subsidies or changing government purchasing policies; and
    b. The early adoption of an evidence based model aimed at improving the safety of people who are blind or vision impaired.

Blind Citizens Australia
Policy Statement Pedestrian Safety

Amended by the National Policy and Development Council August 2009

Blind Citizens Australia
Ross House
Level 3, 247-251 Flinders Lane
MELBOURNE VIC 3000
Phone: (03) 9654 1400 / 1800 033 660
TTY: (03) 9639 1728
Fax: (03) 9650 3200
Website: www.bca.org.au
E-mail: bca@bca.org.au

1. PREAMBLE

1.1 This Policy Statement on Pedestrian Safety has been developed by Blind Citizens Australia, Australia's National organisation of people who are blind or vision impaired. It reflects the increasing concerns of our members that the environment through which we walk is becoming more cluttered and less easy to negotiate safely. Through this Policy Statement, we seek to work with Local, State and Commonwealth Governments and blindness agencies to implement solutions to the problems caused by our obstacle-ridden environment through community education, new regulations and improved administration of existing laws.

1.2 We point out that people who are blind or vision impaired have the same rights as others to walk in a safe environment. We pursue the goal of a barrier-free, pedestrian friendly environment in the belief that it is not only of benefit to us but to the community as a whole.

1.3 Blind Citizens Australia supports the United Nations Convention on the Rights of People with a Disability. In particular, Article 20 is relevant to this policy and reads;

Article 20 Personal mobility
States parties shall take effective measures to ensure personal mobility with the greatest possible independence for persons with disabilities, including by:
(a) Facilitating the personal mobility of persons with disabilities in the manner and at the time of their choice, and at affordable cost;
(b) Facilitating access by persons with disabilities to quality mobility aids, devices, assistive technologies and forms of live assistance and intermediaries, including by making them available at affordable cost;
(c) Providing training in mobility skills to persons with disabilities and to specialist staff working with persons with disabilities; and
(d) Encouraging entities that produce mobility aids, devices and assistive technologies to take into account all aspects of mobility for persons with disabilities.

2. PEDESTRIAN SAFETY HAZARDS

2.1 Stationary pedestrian safety hazards include:
• advertising A frame Boards,
• overhanging shop signs and awnings and displays of goods for sale;
• tables, chairs, benches potted plants and trees;
• overhanging branches, garbage/rubbish bins, recycle receptacles;
• bicycles and bicycle racks;
• motorcycles and motor vehicles (parked on footpaths or in driveways);
• construction works and construction barricades;
• protruding items, equipment and supplies hanging off cars and other motorised vehicles;
• poles and posts (especially when blocked together); and
• broken footpaths and merged kerbs.

2.2 Moving pedestrian hazards include:
• moving cars, trucks, bicycles and motorcycles;
• mobility scooters
• cyclists, skate boarders and roller bladers;
• unrestrained dogs;

• rotating signs;
• people selling merchandise or food; and
• street artists, painters and buskers.

3. LIGHTING
Lighting of streets and pedestrian open spaces should be sufficient to ensure that the surrounding environment, traffic and other obstacles are clearly visible to people who are vision impaired. Adequate lighting will also benefit the general community by increasing public safety.

4. SURFACES

4.1 To the maximum extent possible, walking surfaces should be a determined, consistent and predictable level. Where changes in level are necessary, gentle slopes should be preferred to steps. Where steps are necessary, the edge of each step should be marked with colour contrasting strips, colour contrasted handrails should be features of all flights of stairs, and these should be well lit. Tactile tiles (AS1428.4) in suitably contrasting colours should be placed at the tops and bottoms of flights of stairs. Standard AS1428.4 outlines standards for ground surface indicators for the orientation of people who are blind and should be adhered to wherever this Policy Statement recommends tactile surfaces.

4.2 Responsible authorities should have a footpath maintenance program. Laws prohibiting the obstruction of footpaths by overhanging trees and branches should be enforced.

4.3 Pram ramps at corners and pedestrian crossings should:
(a) have a sufficient slope to be detectable under foot and should not merge into the road;
(b) be wide enough to allow the passage of a pram or wheelchair;
(c) have a kerb edge beside each pram ramp to enable a person who is blind to line up with a gutter before crossing a road;
(d) be positioned recognising that angle crossings pose a pedestrian safety hazard to people who are blind or vision impaired. Accordingly, under no circumstances should a pram ramp, due to its angle, direct pedestrians into the path of oncoming traffic; and
(e) be marked with audible/tactile traffic signals at all pedestrian crossings. Lines marking pedestrian crossings should be clear and colour contrasted. Tactile tiles (AS1428.4) should be used to mark the edges of pedestrian crossings.

5. PEDESTRIAN CLEARWAY

5.1 Regulations should provide for a "pedestrian clearway" on footpaths and in public open space. This should be a minimum of two (2) metres width of clear logical path of travel reserved for pedestrians which is obstacle free.

5.2. For people who use shorelining as a mobility strategy, a clear and logical path of travel is best achieved by providing clear space next to a wall or shopfronts.

6. SIGNS

6.1 Regulations should provide that street, parking, traffic, bus stop, taxi and building signs should have clear lettering which is as large as possible, have a colour contrasting background, be made of non- reflecting materials, be clearly illuminated by direct lighting and be positioned to enable a person who is vision impaired to get close enough to them to read the information.

6.2 Signs should have colours which distinguish them from other signs.

6.3 Signs should not have rough or sharp edges and should be constructed of materials which will minimise the possibility of injury.

6.4 Signs should be positioned at a minimum height of two (2) metres above the walking surface.

6.5 Moving or rotating signs should not be permitted in the clear logical path of travel of pedestrians.

6.6 Signs for the purpose of wayfinding, should be located as near to eye level as possible.

7. SHARED ZONES

7.1 Shared zones also known as merged kerbs, are those where the road surface is at the same level as the footpath level (with no grade separation). Shared zones are sometimes used in tourist areas or shopping precinct areas.

7.2 Shared zones are dangerous to pedestrians who are blind or vision impaired, as pedestrians may not be aware when a footpath becomes part of the road surface.

7.3 Shared zones should be preceded by the general lowering of road speeds for vehicles.

7.4 The Australian Road Rules state that a driver driving in a shared zone must give way to any pedestrian in the zone.

8. SILENT VEHICLES

8.1 In recent years, silent or near-silent vehicles such as hybrid electric cars and motorbikes have become more commonplace. Their popularity has grown along with increased public concern regarding climate change and fuel scarcity. It is expected that usage of silent vehicles will continue to flourish.

8.2 This trend is of great concern to people who are blind or vision impaired around the world because it increases the safety hazards already present in pedestrian travel. At the moment, a pedestrian who is blind or vision impaired can usually hear a car approaching because of the noise its engine makes. This means that even if there are no other safety precautions such as audible/tactile crossing indicators someone who is blind or vision impaired can cross a road independently and be relatively assured of their safety. If vehicles become silent, this will no longer be the case.

8.3 The long term solution is for silent vehicles to be designed to emit sufficient sound to be detectable when travelling at slow speeds. The immediate solution is for a public education campaign for drivers of silent vehicles to ensure their awareness of the dangers of their vehicles to pedestrians and of the need to keep a particular look out for pedestrians.

See the Blind Citizens Australia Position Statement on Silent Vehicles at www.bca.org.au for more information.

9. STRUCTURAL WORKS

9.1 Regulations should require that open access holes and trenches, dug as part of street work, be guarded by firmly fenced and properly maintained barricades, extending from ground level to a height of at least 1.5 metres and that these barricades be suitably coloured to contrast with their surroundings and be adequately lit at night. These barricades should be constructed in such a way that a white cane will not normally pass underneath.

9.2 Laws prohibiting the dumping of loads of soil, sand, bricks and construction rubble on footpaths should be enforced.

9.3 Not only should structural works be clearly and appropriately marked, but if an alternative route of travel is marked out for pedestrians it should comply with the principles of this policy. This is especially important if it leads pedestrians onto the road, e.g. if a construction truck is parked across the full width of a footpath and verge.

10. MOTORCYCLES, PARKED VEHICLES AND BICYCLES

10.1 Road Traffic Rules should prohibit the driving and parking of motor vehicles and motorcycles on footpaths and should prohibit the parking of motor vehicles and motorcycles within nine (9) metres of a pedestrian crossing. Adequate street parking should be provided for motorcycles.

10.2 The Road Traffic Laws should prohibit the riding of bicycles on footpaths except on Shared Paths. Cyclists should be required to ride on the road, in the lane nearest the kerb, or in designated bicycle lanes. Safe bicycle racks of contrasting colours should be provided and be located on the kerbside.

10.3 Laws regulating the conduct of users of roller blades, skate boards and other forms of small-wheeled pedestrian transport including mobility scooters should require users to comply with a code of conduct which

should require them to travel at safe speeds, at a minimum distance from pedestrians and to give warnings when overtaking pedestrians. Laws regulating users of skate boards and roller blades should be strictly enforced, particularly in pedestrian clearways and areas of heavy pedestrian use.

11. SHARED PATHS

11.1 Shared paths provide cyclists and pedestrians with a safe travel environment that reduces the potential for interaction with motor vehicles.
• Riders must keep left on shared paths and footpaths unless overtaking
• Riders must give way to pedestrians at all times.
• At path intersections you must signal your intention to turn, and give way to motor vehicles entering or exiting an intersection road.
• Children under 12 years of age may ride on any footpath unless a no bicycles sign has been erected. Riders 12 years of age and over are not permitted to ride on a footpath.
• Riders must only travel in single file on all paths, though they can travel two abreast on a road.
• Animals must not be tied to a moving bike.
• A power-assisted bicycle must not use a path when the power assistance is engaged.

11.2 Under the Road Traffic Code, it is an offence to speed. The Code also requires that you do not ride carelessly or recklessly.

12. ROUND-ABOUTS

12.1 Roundabouts are an urban design paradox. As a pure traffic engineering intersection solution roundabouts generally reduce hazards for motor vehicles and have less delay than traffic lights or priority intersections. But the traditional roundabout design offers little for cyclists or pedestrians.

12.2 Road authorities and councils should ensure that there is a clear, safe alternative route of travel for pedestrians with audible/tactile traffic signals and/or a zebra crossing when roundabouts are used.

12.3 Vehicles have right of way over pedestrians at roundabouts. This can make it very difficult, if not dangerous, for pedestrians to cross. Many pedestrians who are blind or vision impaired find it safer to cross intersections that are controlled by audible/tactile traffic signals.

12.2 Road authorities and councils should ensure that there is a clear, safe alternative route of travel for pedestrians; with audible/tactile traffic signals and/or a zebra crossing when roundabouts are used.

13. DELIVERY VEHICLES

13.1 Access and manoeuvring for service and delivery vehicles should be separated from pedestrian access ways wherever possible.

13.2 There should be clear visibility where-ever possible for vehicles coming in and out of loading bays etc. If clear visibility cannot be achieved, there should be signs warning drivers to watch out for pedestrians.

14. UNRESTRAINED DOGS

Unrestrained dogs constitute a severe pedestrian safety hazard for people who are blind or vision impaired. This is particularly so for those people who are blind who use guide dogs as an unrestrained dog is not only a threat to the person, but can be both a distraction to and a danger to the guide dog which is used for mobility guidance. Responsible authorities are requested to bear this in mind and ensure that laws regarding unrestrained dogs in public places are strictly enforced.

Reference Information:
Australian Road Rules
http://www.ntc.gov.au/filemedia/Reports/ARR_February_2009_final.pdf
Blind Citizens Australia Audible traffic Signals Policy
http://www.bca.org.au/atspol.htm
United Nations Convention on the Rights of Persons with a Disability - Article 20 - Personal Safety.
http://www.un.org/esa/socdev/enable/rights/convtexte.htm

Victoria Walks Inc.
Level 7, 225 Bourke Street
Melbourne VIC 3000
P: 03 9662 3975
E: info@victoriawalks.org.au
www.victoriawalks.org.au
Registration No. A0052693U

2 December 2012

Submission to City of Melbourne Road Safety Plan 2012-16

Background

Victoria Walks is a walking health promotion body funded by VicHealth to get more Victorians walking every day. Our vision is for vibrant, supportive and strong neighbourhoods and communities where people can and do choose to walk wherever possible.

The recent convergence of problems associated with rapid population growth in urban areas, obesity, inactivity, climate change, oil depletion, traffic congestion, road trauma, and threats to community liveability has highlighted the need for integrated, cross-sector efforts to increase the use of safer, smarter and more sustainable mobility options for the numerous short to medium distance trips that characterise urban living.

International evidence and expertise on the integration of road safety, transport and urban planning measures as a means of achieving a range of public policy objectives can assist the City of Melbourne to achieve further improvements in road safety, health, transport, the environment and community liveability in a relatively cost-effective manner (Litman and Doherty 2009).

The focus of this submission is on improving road safety in the City of Melbourne by addressing the safety needs of pedestrians. Victoria Walks believes that road safety in the City of Melbourne must be understood within the context of road safety in Victoria more generally. The submission refers to much Victorian and international road safety and other data.

The submission is structured as follows:

1. Why we need a new approach to road safety that prioritises pedestrians
2. Pedestrian safety in Victoria and internationally
3. Recommendations
4. Summary, conclusions and future directions.

Executive summary

Victoria Walks commends the City of Melbourne for developing the Road Safety Plan 2012-16. This is an opportune time to build on previous successes to achieve improved road safety in the City of Melbourne for the next decade.

Victoria Walks believes that the new Road Safety Plan can achieve significant gains to benefit most vulnerable road users – pedestrians. The focus of this submission is on improving road safety in the City of Melbourne by addressing the safety needs of pedestrians.

Victoria Walks believes that road safety in the City of Melbourne must be understood within the context of road safety in Victoria subsequently the submission refers to much Victorian road safety and other data.

1. Why we need a new approach to road safety that prioritises pedestrians

Victoria now has the opportunity to lead the nation in reframing road safety laws to adopt a more people/pedestrian oriented approach. Critically, Victoria Walks believes that our entrenched 'car dominated culture' is outmoded and needs to be discarded in favour of a road safety strategy that prioritises pedestrians in a planned, consistent and systematic way. Improving the safety of vulnerable road users will contribute to improved health, transport efficiency, environmental sustainability and community liveability.

A road safety approach that prioritises pedestrians is needed now more than ever. Recent statistics show that:

- In Victoria, past road safety improvements have benefitted drivers and passengers more than pedestrians and this is likely to be the same in Melbourne
- Victoria's fatality and serious injury rates for vulnerable road users are disproportionately higher compared to other developed countries
- Speed reduction is key to reducing pedestrian road traffic injuries and fatalities
- Noisy and dangerous driving are high community concerns.

1.1 Improved road safety to save pedestrian lives and injuries on Melbourne's roads
In the City of Melbourne, between January 2007 and December 2011, 15 pedestrians were killed and 946 pedestrians were injured. Leaving aside the immense social costs of these injuries and deaths, in 2006 the economic cost of road crashes was estimated to be $2.7million for a fatal crash, $265,430 for a hospitalised injury crash, $14,430 for a non-hospitalised injury crash, and $10,075 for a property damage only crash (BITRE 2009). Improving the safety of pedestrians will therefore result in substantial individual, social and economic benefits associated with reduced traffic crash deaths and injuries (Connelly and Supangan 2006).

The harm caused by road traffic crashes also includes serious injuries. For every pedestrian fatality in Victoria, there are about 15 serious pedestrian injuries (AIHW 2012a). In the City of Melbourne, for every pedestrian fatality there are about 63 pedestrian injuries. Based on Australian data for 2008-09, pedestrians are more likely to sustain a high threat to life injury than any other road user group (36% of serious injuries compared with 27% for all road users). Pedestrians also have the longest episodes of care, with a mean length of stay of 7.6 days in hospital (compared with 5.4 days, 5.1 days, 4.8 days and 2.9 days for motorcyclists, car passengers, car drivers and pedal cyclists respectively).

Improving the safety of pedestrians will therefore result in substantial individual, social and economic benefits associated with reduced traffic crash deaths and injuries (Connelly and Supangan 2006).

1.2 Improved road safety to encourage active, healthy lifestyles

Traffic safety concerns are a major constraint on walking and cycling for the numerous short to medium distance trips that characterise daily life (Cleland et al 2008; Cycling Promotion Fund and National Heart Foundation 2011). This is particularly evident for children's trips to school. In 1970, 49% of children in Victoria walked to school and 16% travelled by car; but by 1994 these levels were effectively reversed, with 20% of young people walking and 52% travelling to school by car (ABS 1975; ABS 1995). The ABS no longer collects travel to school data, but state-based surveys (including in Victoria) suggest that rates of walking and cycling to school continue to decline, with parental concerns about traffic safety a major contributing factor (Carver et al 2008; Garrard 2010).

As older pedestrians are at greater risk of death and serious injury in collisions with motor vehicles, improved road safety can enable older Victorians to remain active in their local communities.

1.3 Improved road safety leads to more people walking, thereby reducing congestion

Traffic congestion is an increasing, and increasingly expensive problem in Australia's rapidly growing cities, including Melbourne. The costs of traffic congestion in metropolitan Melbourne are projected to rise from $1.2 billion in 2005 to $3 billion by 2020 (Bureau of Infrastructure, Transport and Regional Economics 2007). Traffic congestion is likely to impact the City of Melbourne more than any other Victorian municipality. Replacing motorised trips with active trips contributes to more efficient use of road space, and represents a cost-effective means of reducing traffic congestion.

2. Pedestrian safety in Melbourne, Victoria and internationally

The road safety in the City of Melbourne must be understood within the context of road safety in Victoria.

Victoria has been seen as world leader in road safety, however there is opportunity for further improvements. As a basis for further reductions in road deaths and trauma in Victoria, it is important to acknowledge that:

(i) in the last few years, there has been a levelling off in road deaths in Victoria, suggesting that new directions and initiatives are required
(ii) reductions in road deaths in Victoria in the last 10 years have been predominantly for car occupants, with fewer improvements for vulnerable road users such as pedestrians, cyclists and motorcyclists;
(iii) serious injury rates for most road user groups are increasing; and
(iv) international experience and evidence indicates that road fatality and serious injury rates for vulnerable road users can be substantially lower than current rates in Victoria.

2.1 Past road safety improvements benefit drivers and passengers more than pedestrians

2.2 Melbourne and Victoria's fatality and serious injury rates are disproportionately high

2.3 Speed reduction is key to reducing pedestrian road traffic injuries and fatalities

3. Recommendations – how the City of Melbourne can achieve safer roads for pedestrians of all ages and abilities

To achieve a pedestrian centred road safety plan, Victoria Walks makes the following recommendations:

Recommendation 1: Pedestrian safety should underpin the City of Melbourne Road Safety Plan
Central to this recommendation is the critical need for the road safety plan to shift from a car dominant to a people / pedestrian oriented plan strategy.

Melbourne's Road Safety Plan should support the development of a higher level of duty-of-care of motorists for the safety of more vulnerable road users.

The goal of the City of Melbourne's Road Safety Plan should be 'Vision Zero' where ambitious, but feasible targets should also be included as a means of planning and monitoring progress towards Vision Zero. This target should apply to all road users and not just motor vehicle occupants.

Noisy and dangerous driving should be a focus of the road Safety Plan.

Recommendation 2: 'Safe speed' should be the cornerstone of a Safe System approach
It is recommended that the Safe System approach provide the framework for the City of Melbourne Road Safety Plan and should form the basis for the development of an appropriate package of measures designed to reduce pedestrian deaths and injury.

Given the crucial role that vehicle speed plays in pedestrian safety, 'safe speed' should be included (along with safe roads, vehicles and people) as one of the cornerstones of the Safe System approach.

Lower speed limits save lives: Victoria Walks believes speed limits across the municipality should be reduced.

Promote more pedestrian oriented street design: 'Speeding' includes both travelling above the speed limit, as well as travelling too fast for the road and traffic conditions, and mix of road users. The Road Safety Plan should include traffic calming measures, including street design, to reduce speed.

Recommendation 3: Road safety can be improved by appropriate behaviour change measures that promote 'shared responsibility' between road users
The City of Melbourne Road Safety Plan should also to establish road safety as a social norm, placing more emphasis on the full range of potentially hazardous road user behaviours, and implementing measures aimed at increasing shared responsibility among all road users.

Recommendation 4: Reduced car use
The City of Melbourne Road Safety Plan should align with the City's *Transport Strategy 2012* and also incorporate reduced car use as an effective road safety measure. Reduced car use reduces the exposure of both car occupants and pedestrians and cyclists to the risk of collision with a motor vehicle

Recommendation 5: Introduce measures that prioritises pedestrian safety
This includes improved level of service at all signalised crossings and decreasing road clutter.

4. Summary, conclusions and future directions.

Victoria and the City of Melbourne have an excellent track record of implementing innovative measures that have led to large reductions in road traffic deaths in the last four decades. Several factors now point to the need for further innovations; namely, a shift in focus to more systematically address the safety needs of people who use active, sustainable forms of transport. Pedestrians pose few risks to other road users, but are exposed to life-threatening risks from them. Despite their vulnerability, and their right to move around safely in public places, they have been overlooked in the development of transport systems and road safety strategies.

International experience demonstrates that walking can be made safer. Strategies that have been implemented successfully overseas should be modified, trialled and evaluated in Melbourne so that the benefits of improved road safety are extended to all road user groups. The City of Melbourne Road Safety Plan provides a timely opportunity to invest in action to achieve the multiple cross-sectoral benefits associated with high levels of safe walking in the municipality.

Now is the time for a new approach to road safety so we can once again hear the footsteps of children on our streets in great numbers and older Victorians are able to safely move around our streets and public spaces and actively participate in community life.

We need to approach road safety with our heads and act with our feet.

1. Improving pedestrian safety - injury prevention, health and social benefits

Our cities, towns, neighbourhoods and urban areas have become largely automobile dependent and less walkable. This has contributed to the emergence of more sedentary lifestyles in which Victorians do not engage in the recommended levels of physical activity. Physical inactivity is a significant factor in the dramatic rise in the levels of obesity and preventable diseases such as Type II diabetes and cardiovascular disease.

Walking-friendly neighbourhoods and urban spaces are essential to encourage and enable people to walk. Walking is associated with positive health outcomes, improved fitness and better physical, social and mental health. Making towns, cities and suburbs more walkable has numerous health, environmental and economic benefits.

Neighbourhoods in which people walk are more welcoming and inclusive: they have a stronger sense of community. People who live in walkable areas are more likely to know their neighbours, participate politically, trust others, and be socially engaged. When people walk, it also creates a stronger sense of safety and security. Traffic volume and speed is a clear barrier to walking for leisure, health, community connectedness and/ or transport.

1.1 Recent statistics

As the City of Melbourne recognises, Melbourne is “Victoria’s busiest municipality for pedestrian and cycling activity. On an average day, 805,000 people come into the city and our daily population is set to reach 1 million in the next 10 years. As the city continues to grow, we need to ensure the safety of vulnerable road users”.

In the City of Melbourne, between January 2007 and December 2011, 15 pedestrians were killed and 946 pedestrians were injured.

Furthermore: “[v]ulnerable road users make up 56% of crashes within the LGA and 80% within the CBD. Comparative rates for the Melbourne Metropolitan Area and Victoria are between 10% and 15%. There have been 12% and 36% increases in all vulnerable road user crashes in the LGA and CBD respectively since the 1997-2002 period presented in the previous road safety plan. This is made up primarily by cyclist accidents” (GHD 2012).

Leaving aside the immense social costs of these injuries and deaths, in 2006 the economic cost of road crashes was estimated to be $2.7million for a fatal crash, $265,430 for a hospitalised injury crash, $14,430 for a non-hospitalised injury crash, and $10,075 for a property damage only crash (BITRE 2009). Improving the safety of pedestrians will therefore result in substantial individual, social and economic benefits associated with reduced traffic crash deaths and injuries (Connelly and Supangan 2006).

It is clear that as the overall road toll in Victoria declines over time, it will become increasingly difficult to achieve further improvements (e.g. meeting the national target of a 30% reduction in road crash fatalities and serious road crash injuries by 2020) without more systematically addressing the safety needs of vulnerable road users such as pedestrians, who comprise a sizeable and increasing proportion of road deaths and injuries. Victoria’s ageing population presents an additional challenge in meeting this target, as older pedestrians are at increased risk of death and serious injury in collisions with motor vehicles (the major cause of pedestrian deaths and serious injuries).

Safe walking conditions also contribute to achieving several additional public policy objectives associated with reducing unsustainably high levels of car use in Victoria. Traffic safety concerns are a major constraint on walking and cycling for the numerous short to medium distance trips that characterise daily life (Cleland et al 2008; Cycling Promotion Fund and National Heart Foundation

2011). This is particularly evident for children's trips to school. In 1970, 49% of children in Victoria walked to school and 16% travelled by car; but by 1994 these levels were effectively reversed, with 20% of young people walking and 52% travelling to school by car (ABS 1975; ABS 1995). The ABS no longer collects travel to school data, but state-based surveys (including in Victoria) suggest that rates of walking and cycling to school continue to decline, with parental concerns about traffic safety a major contributing factor (Carver et al 2008; Garrard 2010).

International travel and road safety data indicate that it is possible to achieve high rates of relatively safe walking and cycling, including for children (Pucher and Dijkstra 2003; Christie et al 2004; Christie et al 2007; Garrard 2009). For example, the Netherlands (where 89% of children walk or cycle to school) now has one of the lowest bicycle fatality and serious injury rates in the developed world for children aged 0-11 years: 7 fatalities per year (compared with over 400 in 1970); one fatality per 170 million km cycled; and 125 in-patient admissions per year. These data demonstrate that child road deaths and serious injuries can be dramatically reduced whilst also increasing their levels of walking and cycling.

1.2 Benefits of a pedestrian oriented road safety plan

The provision of safe environments that encourage people of all ages and capacities to use active transport (walking, cycling and public transport) as part of their daily activities delivers multiple benefits including:

- health benefits of leading an active life (increased physical activity and reduced rates of chronic diseases)
- transport benefits of reduced congestion, car space requirements and costs
- increased mobility for people who do not drive cars (children, adolescents, older adults and some disadvantaged and low income groups)
- environmental benefits of reduced air, noise, and visual pollution
- energy use reductions through lower fossil fuel use and greenhouse gas emissions
- community strengthening through increased social interactions on streets and within neighbourhoods
- improved community safety, as 'peopled' places are safer places.

(Garrard 2008a; Giles-Corti et al 2010)

Daily walking or cycling to and from work reduces the risk of coronary heart disease (Hu et al 2007). For adults with diabetes, walking more than two hours a week was associated with 39% lower all-cause mortality and 34% lower CVD mortality (Gregg et al 2003). These health improvements also provide cost savings. In an economic analysis of moderate-intensity physical activity for adults with diabetes, a 3-mile daily walk resulted in cost savings (including health and social costs) of $1,000 per person per year (Di Loreto et al 2005).

Australia has one of the highest rates of obesity in the world; with the total cost of obesity in Victoria estimated to be $14.4 billion in 2008 (Access Economics 2008). Lack of 'incidental' physical activity such as walking and cycling for transport is a contributing factor to high rates of obesity for both children and adults. Countries with the highest levels of active transport tend to have the lowest obesity rates (Bassett Jr et al 2008), and a similar inverse association (for both obesity and type 2 diabetes) has been demonstrated for states and cities in the USA (Pucher et al 2010). An Australian study also found a positive association between time spent driving to work and being overweight or obese (Wen et al 2006).

Human-scale urban environments that support walking and cycling can also improve social interactions and increase community attachment, liveability, and amenity (Litman and Doherty 2009). Heavy traffic is associated with reduced street-based activities and social interactions between neighbours (Appleyard and Lintell 1980; Bosselmann and Macdonald 1999; Hart 2008). In response to these findings, and to their widespread omission in transportation planning, Litman

(2009) has developed a comprehensive framework for transportation planning that includes valuing community cohesion and social connectedness.

Noise pollution associated with motor vehicle traffic also impacts on the health of Victorians. Transport is the main (and loudest) source of noise pollution in Victoria. Environmental noise impacts on people's lives through annoyance sleep disturbance, reduced work or school performance, stress and anxiety, reduced enjoyment of home life and other physical health effects. Seventy per cent of people hear traffic noise in their homes and over one million Victorians are annoyed by it. The social survey found that the percentage of people exposed to and annoyed by traffic noise has increased since 1986 (Environment Protection Authority 2007).

Traffic congestion is an increasing, and increasingly expensive problem in Australia's rapidly growing cities, including Melbourne. The costs of traffic congestion in metropolitan Melbourne are projected to rise from $1.2 billion in 2005 to $3 billion by 2020 (Bureau of Infrastructure, Transport and Regional Economics 2007). Traffic congestion is likely to impact the City of Melbourne more than any other Victorian municipality.

As Figure 1 demonstrates, replacing motorised trips with active trips contributes to more efficient use of road space, and represents a cost-effective means of reducing traffic congestion.

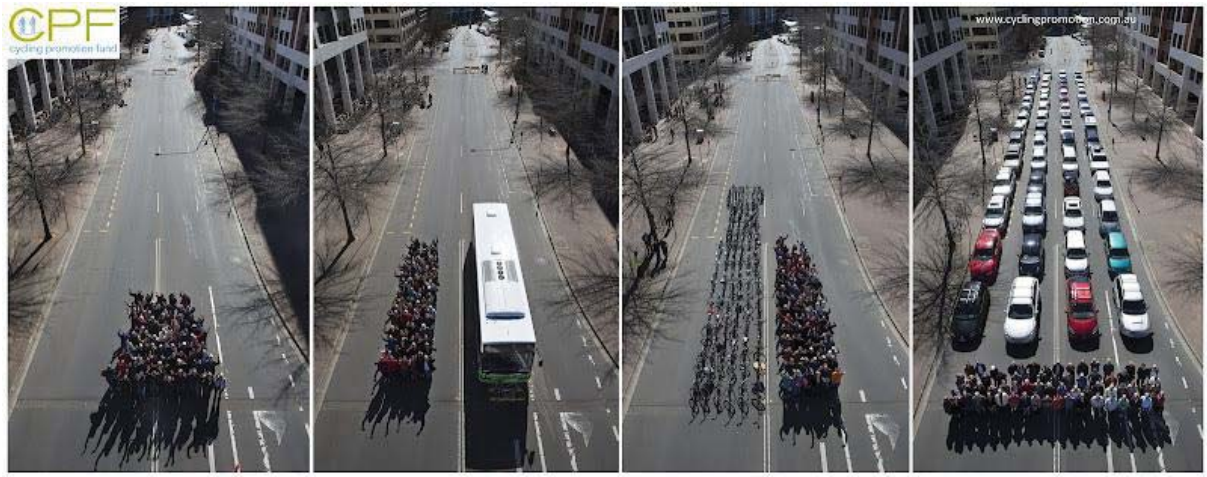


Figure 1: Road space required to move 69 people by walking, bus, bicycle and car, Canberra, September 2012

(Source: Cycling Promotion Fund [http://www.cyclingpromotion.com.au/])

Measures designed to increase the safety of active modes of travel, as described in this submission, will play an important role in achieving improvements in road safety and the associated co-benefits benefits outlined above.

2. Pedestrian safety in Melbourne, Victoria and internationally

The road safety in the City of Melbourne must be understood within the context of road safety in Victoria.

Victoria has been seen as world leader in road safety, however there is opportunity for further improvements. As a basis for further reductions in road deaths and trauma in Victoria, it is important to acknowledge that:

(v) in the last few years, there has been a levelling off in road deaths in Victoria, suggesting that new directions and initiatives are required to achieve the national target of a 30% reduction in road crash fatalities and serious road crash injuries by 2020 (Australian Transport Council 2011);
(vi) reductions in road deaths in Victoria in the last 10 years have been predominantly for car occupants, with fewer improvements for vulnerable road users such as pedestrians, cyclists and motorcyclists;
(vii) serious injury rates for most road user groups are increasing; and
(viii) international experience and evidence indicates that road fatality and serious injury rates for vulnerable road users can be substantially lower than current rates in Victoria.

These trends point to the need for new road safety initiatives that improve the safety of all road user groups, and the development of a plan aimed at preventing serious injuries as well as deaths.

2.1 Past road safety improvements benefit drivers and passengers more than pedestrians

Pedestrians are among our most vulnerable road users. Pedestrian vulnerability to traffic crash injury is two-fold. Not only do people who walk lack vehicle crash protection, but they are also more likely to be vulnerable due to their age. Children and adolescents may lack the knowledge, skills and experience to safely negotiate hazardous road environments, and older adults may be at risk due to reduced agility, perceptual abilities and cognitive processing, and increased fragility in the event of a collision with a motor vehicle.

Nevertheless, discouraging walking (including for these population groups) is neither desirable nor feasible. Children, adolescents, and older adults frequently depend on walking to meet their mobility needs; including walking to and from public transport. They also obtain substantial health benefits through regular daily walking (Pucher et al 2010). All citizens, and particularly our most vulnerable, have a right to complete their journeys safely regardless of their mode of travel (Jacobsen et al 2009).

A key principle of the Safe System approach is the establishment of a ‘forgiving’ road transport system. As set out in the National Road Safety Strategy 2010-2020:

> *“The road system must allow for human error [including pedestrian error] and provide forgiving environments that prevent serious injury or death when crashes occur. A Safe System ensures that the forces in collisions do not exceed the limits of human tolerance. Speeds must be managed so that humans are not exposed to impact forces beyond their physical tolerance. System designers and operators need to take into account the limits of the human body in designing and maintaining roads, vehicles and speeds*” (Australian Transport Council 2011, p.34).

Trend data indicate relatively small improvements in pedestrian safety in recent years. Over the last 10 years (2002 to 2011), pedestrian fatalities in Victoria have shown only a small decline relative to motor vehicle occupants, and also relative to the reduction in pedestrian fatalities in Australia as a whole (see Figure 2) (BITRE 2012).

These data indicate that road safety improvements in Victoria in the last 10 years have benefited drivers and passengers more than pedestrians, and while Victoria outperforms Australia as a whole

in reduced driver and passenger fatalities, it is underperforming relative to Australia as a whole in reducing pedestrian fatalities.

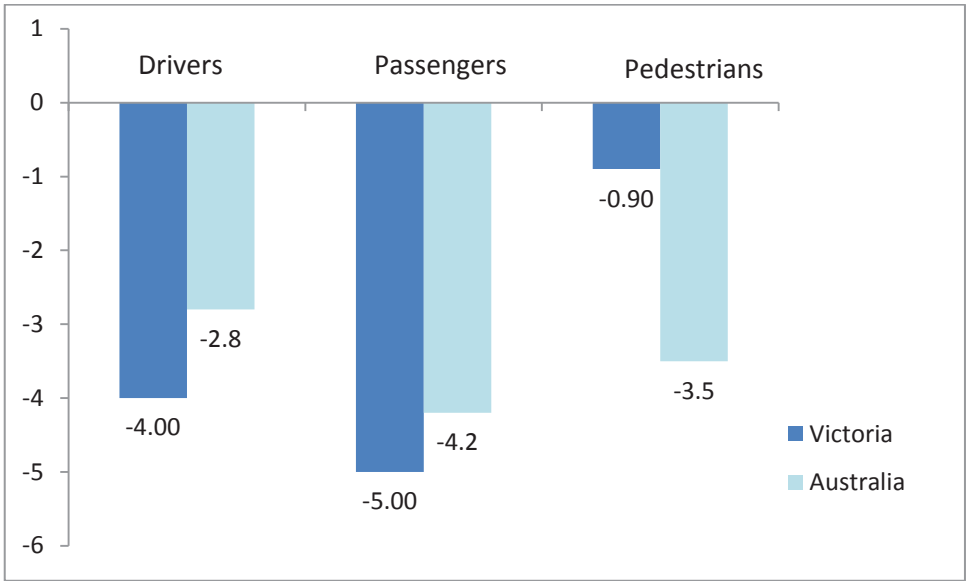


Figure 2: Average annual percentage change in fatalities, 2002-2011 (Source: BITRE 2012)

2.2 Melbourne and Victoria's fatality and serious injury rates are disproportionately high

A number of developed countries have rates of death and serious injury among vulnerable road users such as pedestrians and cyclists that are substantially lower than in Victoria (see Table 1). These countries also tend to have relatively high levels of walking and cycling for transport, and lower overall rates of road fatalities and serious injuries. This is a win-win-win scenario – safer conditions for walking and cycling lead to reduced pedestrian and cycling injuries, more walking and cycling (Garrard 2008b), and a range of benefits associated with replacing car trips with active trips, including an overall reduction in road deaths and trauma (Elvik 2009).

Low pedestrian fatality rates also appear to be associated with low rates of overall road traffic crash fatalities (see Figure 3). In fact, countries such as Sweden, Germany, the Netherlands and Norway comprise a cluster of countries characterised by high levels of relatively safe walking, and low overall road traffic fatality rates. These countries therefore experience multiple benefits and efficiencies in the public policy domains of injury prevention, health, efficient transport, environmental sustainability and community liveability.

Table 1: Road traffic fatalities and walking share of transport trips, 2007
(Sources: WHO 2009; BITRE 2012; AIHWa 2012)

Country (state)	Pedestrian fatalities (per 100,000 population)	Road traffic fatalities (per 100,000)	Walking share of transport trips (%)
Norway	0.50	5	22
The Netherlands	0.58	4.8	22
Sweden	0.62	5.2	23
Germany	0.84	6	23
France	0.91	7.5	19
Australia	0.97	7.6	NA

Victoria	0.79	6.4	12
Belgium	0.99	10.1	16
New Zealand	1.01	10.1	NA
Switzerland	1.04	4.9	45
UK	1.14	5.4	24
Canada	1.16	8.8	7
Italy	1.29	9.6	NA
Spain	1.39	9.3	NA
USA	1.56	13.9	9
Japan	1.68	5	NA

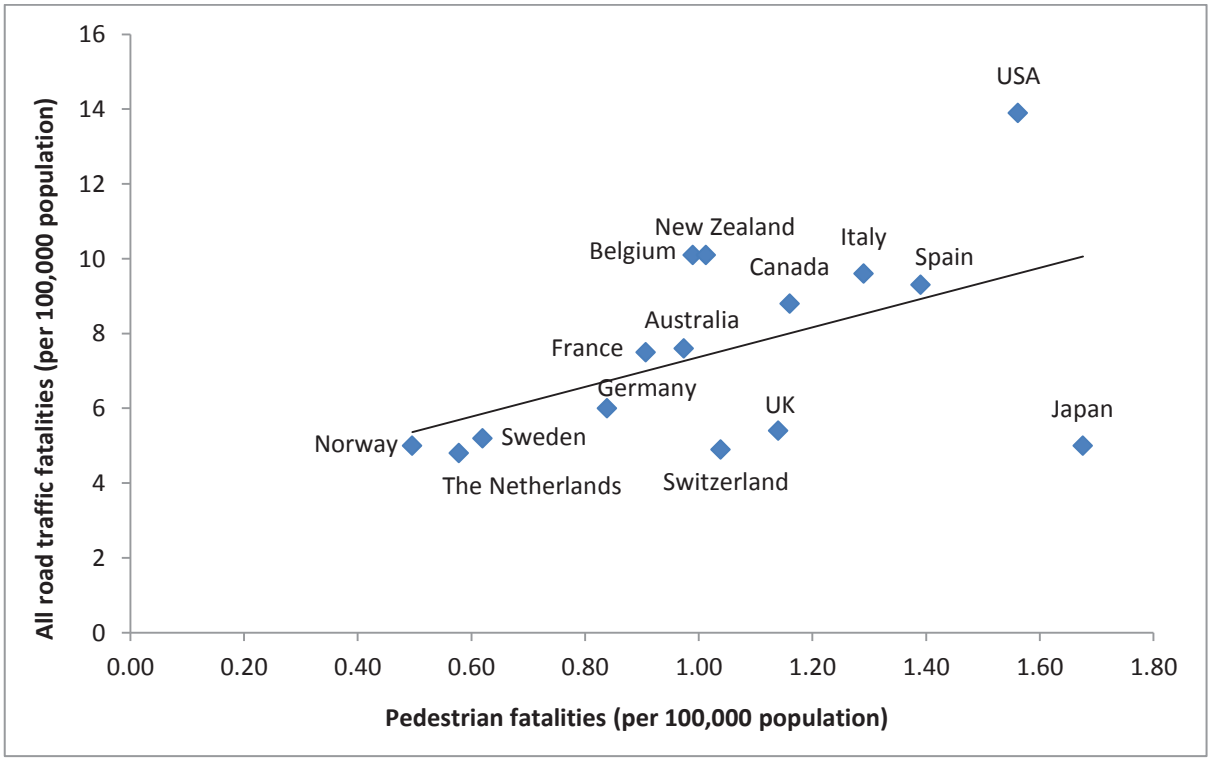


Figure 3: Road traffic fatality and pedestrian fatality rates, 2007
(Source: WHO 2009)

2.3 Speed reduction is key to reducing pedestrian road traffic injuries and fatalities
The harm caused by road traffic crashes also includes serious injuries. For every pedestrian fatality in Victoria, there are about 15 serious pedestrian injuries (AIHW 2012a). In the City of Melbourne, for every pedestrian fatality there are about 63 pedestrian injuries. Based on Australian data for 2008-09, pedestrians are more likely to sustain a high threat to life injury than any other road user group (36% of serious injuries compared with 27% for all road users). Pedestrians also have the longest episodes of care, with a mean length of stay of 7.6 days in hospital (compared with 5.4 days, 5.1 days, 4.8 days and 2.9 days for motorcyclists, car passengers, car drivers and pedal cyclists respectively).

Consistent with injury severity and length of stay in hospital, nearly all pedestrian serious injuries (95%) are caused by collision with a motor vehicle. In contrast, less than half (49%) of serious injuries for car occupants are due to collision with another motor vehicle, with 44% due to non-collision crashes (e.g. over-turning, falling or being thrown from a vehicle) or collision with a fixed or

stationary object (AIHW 2012a). Consequently, improving pedestrian safety predominantly involves avoiding collisions with motor vehicles.

Pedestrians themselves have a role to play in crash prevention, but so too do external factors such as the road environment, vehicle speed and the behaviour of drivers. Older adults tend not to be 'risk-takers' in the conventional sense. The relatively high levels of pedestrian death and serious injury among older adults are attributable more to 'mistakes' than 'risk-taking behaviour'. These 'mistakes' are more commonly the result of cognitive impairment due to medical conditions (such as moderate to severe dementia, moderate to severe Parkinson's Disease, stroke, and multiple sclerosis) rather than normal age-related cognitive decline (Oxley et al 2004).

The most effective measure for reducing pedestrian road traffic crash deaths and serious injuries is speed reduction (World Health Organization (WHO) 2008). Lower vehicle speeds provide a more 'forgiving' environment in the event of pedestrian errors, consistent with a key principle of the Safe System approach. In contrast, there is little evidence for the effectiveness of pedestrian education programs in reducing pedestrian injuries. A review of injury prevention strategies concluded that "There is little evidence that efforts to change the behaviour of elderly pedestrians [e.g. through road safety education] have any long-term effects, and there is no evidence that programs focused on drivers have any benefit." (Rivara et al 1997). A more recent review reported similar findings (Duperrex et al 2002) though it should be noted that there have been few rigorous evaluations of pedestrian education programs.

The time trend and comparative data (including international data) outlined earlier point to an opportunity to further improve Victoria's road safety performance (and achieve a number of health, transport, environmental and community liveability co-benefits) by incorporating evidence-based measures for reducing pedestrian fatalities and serious injuries. The following section is a summary of broad-based recommendations for achieving these goals.

3. Recommendations for improving pedestrian safety

These recommendations have pedestrian *safety* as their focus, but are also based on the principle of cross-sectoral collaboration to achieve multiple public policy objectives. As outlined in this submission, improving the safety of vulnerable road users can contribute to improved health, transport efficiency, environmental sustainability and community liveability.

The development of the City of Melbourne Road Safety Plan provides an excellent opportunity to contribute to achieving these goals through integrated road safety, urban planning and transport planning measures, consistent with Victoria's 2010 Transport Integration Act. The Act includes the Vision Statement that "*The Parliament recognises the aspirations of Victorians for an integrated and sustainable transport system that contributes to an inclusive, prosperous and environmentally responsible State*", and specifies objectives for:

- social and economic inclusion
- economic prosperity
- environmental sustainability
- integration of transport and land use
- efficiency, coordination and reliability
- safety and health and wellbeing.

(http://www.legislation.vic.gov.au/Domino/Web_Notes/LDMS/LTObject_Store/LTObjSt5.nsf/DDE300B846EED9C7CA257616000A3571/BC2280585B69A291CA2577910008AF32/$FILE/10-6a010.pdf)

Recommendation 1: Pedestrian safety should underpin City of Melbourne Road Safety Plan

The City of Melbourne Road Safety Plan should focus on the safety of vulnerable road users, particularly pedestrians. Pedestrian safety must underpin the City's Road Safety Plan and be built into the road system. Currently, pedestrian safety measures tend to be ad hoc and reactive, rather than planned, consistent and systematic. Facilities for the safe movement of vulnerable road users should be integrated into urban and transport planning in the same way that provisions are made for safe car travel. It is imperative for individual health and well-being and overall economic productivity that improvements in pedestrian safety underpin strategies to increase walking levels.

Shifting from a car dominant culture to a people / pedestrian oriented plan

There are several key safety issues on our roads, but a critical issue that underpins road safety issues in general in Melbourne is the focus on transport systems and road safety strategies that prioritise car travel and motor vehicle occupant safety over the mobility and safety needs of non-motorised road users. This manifests as:

- the widely and strongly held belief that "the road system is for cars"
- pedestrians and cyclists are often held to be responsible for their injuries because they "choose to expose themselves to risk by using the road system designed for cars and/or fail to take adequate actions to avoid being struck by a motor vehicle"
- pedestrian and cyclist safety is often compromised to achieve small reductions to motor vehicle travel time (e.g. inappropriate speed limits; lack of pedestrian crossings; short pedestrian crossing times at signalised intersections and crossings; the need for pedestrians to activate walk signals at signalised intersections, and to do this several times at more complex intersections)
- motorists frequently fail to obey road rules that govern interactions with pedestrians (e.g. failing to give way to pedestrians when turning left or right, particularly at unsignalised intersections, failing to look for and/or give way to pedestrians when reversing out of driveways, failing to stop behind stop lines at stop signs and signalised crossings, motor bike riders riding on footpaths to park their bikes –an offence that appears entirely unpoliced)
- driver training that does not give sufficient emphasis to the importance of avoiding collisions with pedestrians and cyclists.

This ‘car dominated culture’ results in impatient, discourteous, inattentive, distracted and selfish driving that places personal needs (e.g. to travel as fast as possible) above community safety and wellbeing. This manifests as several risky behaviours (e.g. tailgating, failure to give way to pedestrians when turning left or right, ‘dooring’ of cyclists, failure to leave a safe distance when overtaking cyclists, and general harassment and abuse of cyclists). A frequent comment from people returning from driving, walking and cycling overseas (particularly in the European countries with low crash injury rates) is the high level of aggressive driving behaviour in Australia compared with their overseas counterparts.

Failure to acknowledge and challenge these (usually inadvertent) by-products of living in a ‘car culture’ constrains further advances in road safety, because it constrains and delays the shift in thinking required to improve road safety for all road users.

Higher level of duty-of-care of motorists for the safety of more vulnerable road users
Melbourne’s Road Safety Plan should support the development of a higher level of duty-of-care of motorists for the safety of more vulnerable road users. This approach should challenge the unfortunate and dangerous mindset that has inadvertently developed in Melbourne, Victoria and other car-oriented countries that the road system is for motor vehicles, and that more vulnerable road users are therefore largely responsible for their injuries. This ‘victim-blaming’ attitude implies that it is pedestrians and cyclists who should avoid hazardous drivers – not the other way around. This perception should be reversed, thereby bringing Victoria in line with countries such as Sweden, The Netherlands, Denmark and Germany.

City of Melbourne Road Safety Plan should incorporate ‘Vision Zero’ principles
The goal of the City of Melbourne’s Road Safety Plan should be ‘Vision Zero’; that is, zero fatalities and serious injuries. Ambitious, but feasible targets should also be included as a means of planning and monitoring progress towards Vision Zero. The National Road Safety Target of a 30% reduction in road crash fatalities and serious road crash injuries by 2020 is an appropriate target (Australian Transport Council 2011), and this target should apply to all road users and not just motor vehicle occupants.

Benefits of the Vision Zero approach include that it:

(i) reinforces the view that all road trauma is unacceptable; that death and injury is not the inevitable by-product of mobility in developed countries; and that small improvements in motorised mobility should not be at the expense of road traffic deaths and serious injuries;
(ii) focuses attention on reducing death and injury for all road users, and not just motor vehicle occupants; and
(iii) assists to establish a broad-based culture of road safety that enhances community support for road safety measures (e.g. reduced speed limits and their enforcement).

These benefits of the *Vision Zero* approach may have contributed to the substantial reductions in pedestrian deaths in countries such as Sweden (*Vision Zero*) and The Netherlands (*Sustainable Safety* – similar to Vision Zero) compared with Victoria, where the main focus has been on motor vehicle occupants (see Figure 4). Higher population growth in Melbourne and Victoria than in Sweden and The Netherlands in the decade from 1999 to 2009 may also have contributed to these trends. However, it is also important to note that the populations of Sweden and the Netherlands are about double and treble (respectively) that of Victoria, and their citizens walk about twice as much per person as do Victorians (see Table 1). It therefore appears that *Vision Zero* and *Sustainable Safety* are effective road safety strategies, including for vulnerable road users such as pedestrians.

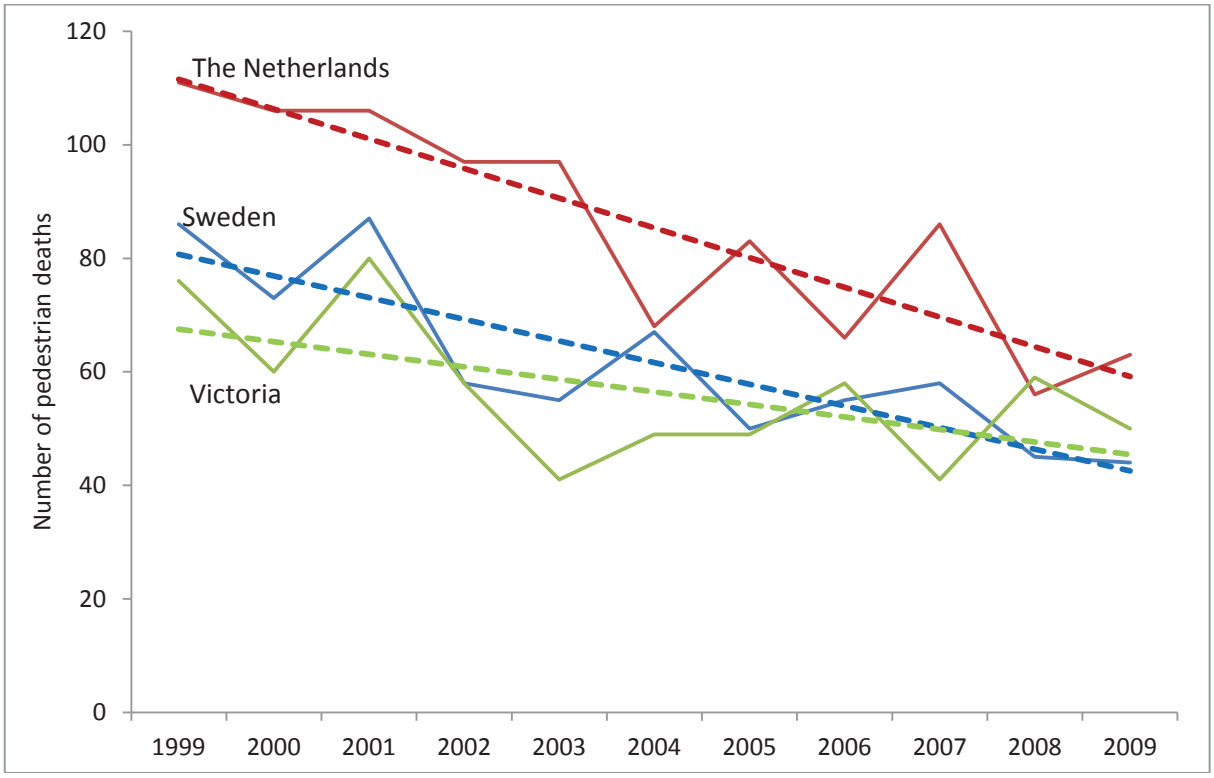


Figure 4: Pedestrian deaths, 1999-2009, The Netherlands, Sweden and Victoria
(Sources: BITRE 2012;
http://ec.europa.eu/transport/road_safety/pdf/statistics/historical_country_transport_mode.pdf)

Vision Zero works *because* it requires all citizens to make an effort (and sometimes make compromises) to achieve this goal. This may be more palatable to the general public than some decision-makers believe. Most Australians are concerned about dangerous driving and want safer roads (see section below, including Figure 5).

It is also important to recognise that there can be major misperceptions about some of the 'compromises' required to improve road safety. An example is reduced speed and travel time. Most people have poor awareness of the small impact of reduced speed limits on overall travel time in built-up areas. These misperceptions can be effectively addressed using well-designed communication campaigns. Investing in increased community support for 'compromises' in the interests of improved road safety is an important component of road safety strategies. Without this support, effective road safety measures may not be able to be implemented.

Noisy and dangerous driving are high community concerns
Community members express high levels of concern about dangerous driving, and place a high priority on road safety. In the most recent ABS survey of Australian's perceptions and experiences of 'crime victimisation', survey respondents were asked questions relating to their perceptions and opinions about social disorder issues in their local area. Social disorder refers to antisocial behaviour which may or may not constitute criminal offences such as public drunkenness, noisy neighbours and offensive language or behaviour (ABS 2012).

As illustrated in Figure 5, noisy and dangerous driving were the major concerns people had about social disorder in their community.

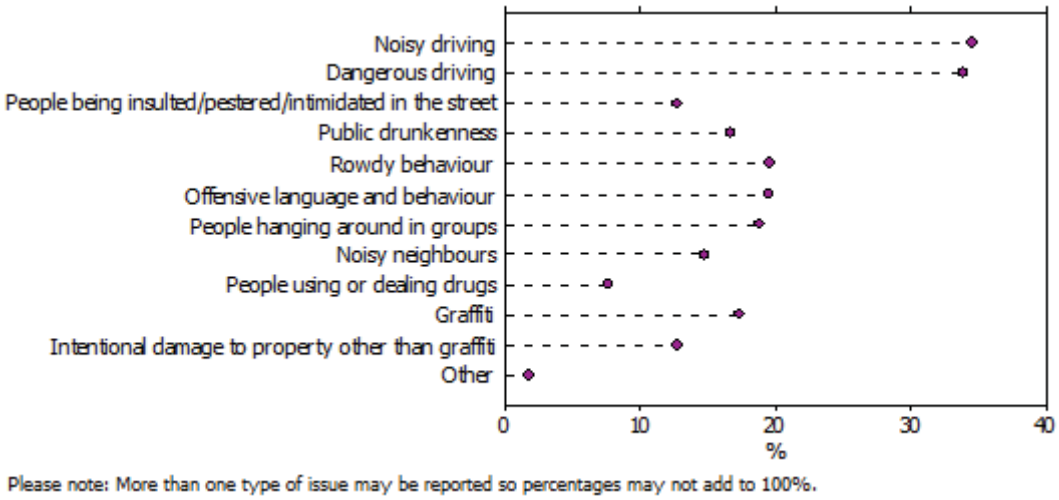


Figure 5: Perceptions of social disorder issues, adult Australians (%), 2011
(Source: ABS 2012)

Recommendation 2 - 'Safe speed' should be a cornerstone of a Safe System approach

Safe System approach should form the basis of the City of Melbourne Road Safety Plan
It is recommended that the Safe System approach, which provides the framework for the City of Melbourne Road Safety Plan, should form the basis for the development of an appropriate package of measures designed to reduce pedestrian deaths and injury.

Given the crucial role that vehicle speed plays in pedestrian safety, 'safe speed' should be included (along with safe roads, vehicles and people) as one of the four cornerstones of the Safe System approach. This would bring the City of Melbourne Road Safety Plan in line with the National Road Safety Strategy 2010-2022 (Australian Transport Council 2011).

Lower speed limits save lives
Victoria Walks congratulates the City of Melbourne for the recent reduction of the speed limit in the CBD from 50 to 40Km/h, however Victoria Walks believes speed limits across the municipality should be further reduced.

Current speed limits, particularly in built up areas, do not adequately reflect human tolerance to collision with a motor vehicle. This is particularly the case in residential areas, shopping precincts, public transport hubs/stops, near schools (current school zones cover too small an area to enable most children to walk or ride safely for the entire trip to school), and in other areas of relatively high pedestrian activity.

The most important and effective measure for improving the safety of pedestrians is speed reduction. Speed limits in the City of Melbourne are higher than internationally recommended levels, and also higher than in most developed countries (Fildes et al 2005).

A key recommendation in this submission is to reduce speed limits in residential areas and within a 2 km radius of schools, shopping strips, parks, and major trip generators such as universities, TAFE colleges, hospitals, large shopping complexes, and other employment centres. The internationally recommended safe speed limit is 30 km/h for areas where vulnerable road users are exposed to vehicular traffic (as defined by the biomechanical tolerance to crash impact forces) (World Health Organization (WHO) 2008; International Transport Forum 2011). However, given that speed limits in built-up areas in Victoria are substantially higher than this [and also higher than in many other

developed countries (Fildes et al 2005)] it may be more feasible to introduce a step-wise reduction (from 50 km/h to 40 km/h in the short-term, and subsequently to world's best practice of 30 km/h).

Promote more pedestrian oriented street design
'Speeding' includes both travelling above the speed limit, as well as travelling too fast for the road and traffic conditions, and mix of road users. Lower speed limits mean that exceeding the speed limit, both deliberately and inadvertently then occurs at lower and therefore safer speeds. Traffic calming measures, including street design, also assist in reducing speeding.

Continued and more widespread enforcement of speed limits using predominantly covert means of detection will assist in more system-wide speed reduction than simply "slowing down in the vicinity of speed cameras". It will be important to address the widely held perception that speed enforcement is largely 'revenue-raising' by establishing community support for speed enforcement; encouraging the mass-media to assist in reducing road trauma by ceasing to portray speed enforcement as 'revenue-raising'; and increasing community awareness of the role of even small increases in speed in traffic injuries.

Develop a package of measures aimed at making speeding socially unacceptable and travelling at safe speeds the social norm. It is important that the community recognises that speeding is not just the domain of young, male, so-called 'hoon' drivers; but rather, we all need to drive at a safe speed at all times. Measures could include:

- Designing built up areas for slower speeds. 'Design speed' is one of the most effective ways to reduce vehicular traffic speed and is critical to increasing walking levels.
- Raising awareness of the small impact of speeding on travel time (including in driver education and licence-testing).
- Highlighting the high proportion of drivers who drive within the speed limit rather than the minority who don't (as part of the process of normalising driving within the speed limit).
- Increasing the financial incentives for not speeding and publicise the number of people receiving these incentives.
- Introducing further restrictions on motor vehicle advertising that emphasises speed and fast acceleration.

Recommendation 3: Road safety should be improved by appropriate behaviour change measures that promote 'shared responsibility' between road users

There are indications that road safety in Victoria, and thereby also Melbourne, may be reaching the limits of further benefits through behaviour change measures directed at high-risk behaviours such as speeding and drink/drug driving using current educational, regulatory and enforcement measures.

Whilst maintaining these effective measures, the new City of Melbourne Road Safety Plan should also aim to establish road safety as a social norm, placing more emphasis on the full range of potentially hazardous road user behaviours, and implementing measures aimed at increasing shared responsibility among all for road safety. For instance, the current Victorian *Arrive Alive!* message and the new Victorian number plate message *Stay Alert Stay Safe* have a strong individual focus. Victoria Walks believes the City of Melbourne can play a leading role in developing a culture of shared responsibility.

This submission recommends a change from negative, individual-focused road safety messages to messages that have a positive, 'shared responsibility' theme. Evidence from the social psychology/behaviour change literature also indicates that it may be more effective to promote awareness of the large number of people doing the right thing, than to focus on the poor behaviour

of the minority (McKenzie-Mohr and Smith 1999). This assists in establishing positive behavioural norms rather than (inadvertently) conveying the message that poor behaviour is the norm.

In addition, negative, 'hard hitting' messages may create the perception that the streets are dangerous places; thereby contributing to the 'social trap' of further reducing the use of modes of travel that cause little road trauma, and increasing more harmful motorised travel.

Road safety awareness – prevention is better than rehabilitation
It is important to increase awareness of serious injury rates and their impacts, though negative, scare-based campaigns are unlikely to be effective (Hastings et al 2004). There is also a risk that threat and fear-arousing campaigns may undermine strategies aimed at increasing children's and adults' use of active and sustainable transport modes by increasing people's perceptions that the road network is dangerous.

City of Melbourne Road Safety Plan should explore alternative, more positive approaches to awareness-raising and behaviour change. Examination of alternative approaches should extend beyond the road safety field and include other public health campaigns. For example, raising awareness of the large number of people affected by, and involved in, serious road trauma could draw on the concepts used in the TV advertisement conducted as part of Australia's national HIV/AIDS strategy several years ago: "How many people are you really sleeping with" in which the TV screen gradually filled with 'multiplying beds'. An equivalent road safety message could be along the lines of "If you think it's just you – think again", accompanied by images of the numerous people and services affected by a serious road injury. Alternative, more positive focused messages could include "Prevention is better than rehabilitation", or "Prevention is the only cure we've got".

Road safety education should promote mutual respect between road users
Although road safety education is primarily the responsibility of the Victorian Government, the City of Melbourne is well placed to undertake localised radio safety education that places emphasis on the importance of motorists respecting the rights of pedestrians and cyclists, obeying the road rules in relation to pedestrians and cyclists, and taking care to avoid collisions with pedestrians and cyclists.

Road safety education should increase public awareness of giving way to pedestrians when entering and exiting private properties and car parks, and making left and right turns (compliance with this road rule is particularly poor at unsignalised intersections, and when turning into the minor road arms of T-intersections).

Given the lack of demonstrated efficacy, the current focus on 'educating' older pedestrians (e.g. to cross roads safely) should be replaced with an increased emphasis on an overall Safe System approach to improving the safety of the rapidly increasing numbers of older pedestrians.

Recommendation 4: Reduced car use

It is recommended that the City of Melbourne Road Safety Plan aligns with the City's *Transport Strategy 2012* and also incorporates reduced car use as an effective road safety measure. Reduced car use reduces the exposure of both car occupants and pedestrians and cyclists to the risk of collision with a motor vehicle. Modelling based on exposure levels and the relative risks of motorised and non-motorised modes of travel indicates that a sizable shift from motorised to non-motorised travel can lead to an overall reduction in injury crashes (Elvik 2009). Increasing the mode share of trips undertaken by foot, bicycle and public transport will require the adoption of a more 'integrated policy' approach to road safety rather than viewing road safety in isolation from urban planning, transport planning, and health, education and environmental policy.

Recommendation 5: Introduce measures that prioritise pedestrian safety

Prioritising pedestrians in road safety includes:

- reducing speed limits, particularly in urban areas
- encouraging reduced car use
- improving the many road infrastructure, environment and traffic conditions that increase the risk of injury to pedestrians and cyclists (Oxley et al 2004).

Achieving these changes requires a road safety plan that complements other government priorities such as reducing traffic congestion, increasing physical activity, fostering environmental sustainability, and creating strong, socially connected communities.

Improvements in road infrastructure, environment and traffic conditions should also be key components of a Safe System plan for improving pedestrian safety. These include the operation, phases, timing and placement of traffic signals at intersections and pedestrian crossings; road width, sight distance, and refuge islands; and well-designed, well-lit and well-maintained road and footpath surfaces that are free of obstacles.

Improve the pedestrian level of service at signalised crossings

Many signalised crossings have extremely poor pedestrian levels of service that both impacts pedestrian safety (e.g. compliance) and reaffirms the dominances of a culture that gives primacy to car travel over walking, thereby making walking for transport less appealing. Many crossings have extremely long waiting times, short crossing times, do not have auto green or auto call-up. Most do not give pedestrians an auto head start (early green), and lamentably, some even give vehicles a head start over pedestrians.

Some pedestrian crossings have been sited at dangerous positions such as a few metres from an intersection, so that cars have no warning of a crossing when they enter a road (e.g. Lygon St, Carlton, near Pelham St). Frequently new crossings are installed with the lowest level of pedestrian service possible (no auto call up, head start, short crossing times etc.) even when the crossing is not on a major road and it has no real bearing to network operating plans (e.g. crossing at Drummond and Faraday Streets, Carlton). The installation of such poor levels of service unfortunately suggests a cultural disregard for walking.

Victoria Walks recommends that all new signalised crossings have the highest level of pedestrian service as the default and that this level should be modified only if there is a justifiable reason for this to occur.

Decrease road clutter

Review of legislation and the enforcement of legislation relating to the erecting of signs, including variable message signs used for advertising, on road ways and road related areas should be conducted. As Figure 6 demonstrates, roadways and road reserves are frequently cluttered with advertising and related signs that are highly likely to distract drivers and/or reduce the visibility or noticing of official road warning signs (Edquist 2008). Currently it is not always clear which legislation (e.g. Road Management Act, Victorian Planning provisions and Road Safety Traffic Management regulations) is relevant on specific roadways and which authority should enforce the legislation. Subsequently, it appears that the erection of such signs appear to be largely unregulated. In the interest of road safety, Victoria Walks recommends a working wioht the Victorian Government to review relevant legislation and the development of a universal approach to this issue and that existing legislation and regulations are enforced.

Figure 6: Road and road related areas cluttered with advertising

Maintain current road rules relevant to cycling on footpaths

Victoria Walks is aware that some cyclists and cycling bodies advocate for laws to be changed to allow bicycles to be ridden on footpaths, particularly secondary students. Victoria Walks supports current legislation that allows children under 12 years and accompanying adults to ride on footpaths. Footpaths are for feet, they are for walking, but also stopping, playing, talking and interacting. That is, they are the basis of public and community space and should not be turned into vehicular transport routes (bicycle or otherwise).

Walking for transport has great capacity for uptake for short trips and walking for leisure and health has the greatest capacity for uptake as a regular form of physical activity and incidental exercise (walking is the most prevalent form of medium intensity physical activity of Australian adults). Accessible, safe and well maintained footpaths are essential for increasing walking for transport, health and/or leisure, particularly for children, older people and people with a disability.

Victoria Walks recommends that the City of Melbourne works with the Victorian Government to ensure that current Road Rules are not be modified to allow bicycle riders over 12 years of age to be permitted to ride on footpaths.

4. Summary, conclusions and future directions

Victoria and the City of Melbourne have an excellent track record of implementing innovative measures that have led to large reductions in road traffic deaths in the last four decades. Several factors now point to the need for further innovations; namely, a shift in focus to more systematically address the safety needs of people who use active, sustainable forms of transport. Pedestrians pose few risks to other road users, but are exposed to life-threatening risks from them. Despite their vulnerability, and their right to move around safely in public places, they have been overlooked in the development of transport systems and road safety strategies.

Victoria Walks believes that the factors that necessitate a change in direction are:

- Reductions in fatalities have plateaued in the last few years.
- Serious injuries over the last decade have not shown the same reductions as fatalities.
- Improvements have mainly been for motor vehicle occupants; with vulnerable roads users (pedestrians, cyclists and motorcyclists) less likely to have benefited from the road safety measures implemented.
- If this trend continues, vulnerable road users will comprise an increasing proportion of overall injury crashes.
- This will be further exacerbated by Victoria's ageing population, because older adult pedestrians are at greater risk of death and serious injury than younger age groups.
- Several other OECD countries have achieved what the City of Melbourne Road Safety Plan should aspire to; namely, lower overall fatality and serious injury rates that include lower fatality and serious injury rates for pedestrians.
- Countries such as Sweden, the Netherlands, Germany and Denmark, that have relatively high rates of safe walking and cycling, experience multiple benefits associated with reduced road traffic injuries, improved health, less traffic congestion, reduced air and noise pollution and greenhouse gas emissions, and improved community liveability.
- The City of Melbourne Road Safety Plan is well-placed to also realise these benefits, and improving the safety of pedestrians is an important component of the integrated package of measures that can lead to more children and adults walking more safely more often.
- Road safety, transport, urban planning, environment and health sectors should work in partnership to achieve these goals.
- The City of Melbourne Road Safety Plan should adopt *Vision Zero* as its goal; with the target of a 30% reduction in road crash fatalities and serious road crash injuries by 2020. This target should apply to all road users and not just motor vehicle occupants.
- The Safe System framework should include Safe Speed, and be used as a basis for developing a plan to achieve a 30% reduction in road crash fatalities and serious injuries for pedestrians and cyclists by 2020.
- Central to Vision Zero and the road safety plan derived from it, is that pedestrian safety should not be compromised in order to achieve marginal improvements in motor vehicle travel times. All community members, regardless of their mode of travel, have a right to complete their journeys safely.
- The new City of Melbourne Road Safety Plan should include reduced vehicle speeds, including lower speed limits in built-up areas, as vehicle speed is a major factor in pedestrian fatalities and serious injuries. Speed reductions should be accompanied by a package of measures that assist drivers to comply with speed limits, including a communication strategy to improve drivers' acceptance of, and compliance with speed limits.

Because nearly all pedestrian deaths and serious injuries are caused by being struck by a motor vehicle, there should be a strong focus on safe road user behaviour (including, but not limited to speeding and drink/drug driving). The overarching aim in changing road user behaviour should be the development of a culture of mutual respect and considerate, law-abiding behaviour among all road users who share public road space.

Action to achieve culture change should include, but not rely solely on the enforcement of road rules. Rule-making and enforcement measures are effective in achieving safer road user behaviour, but it is not possible (or efficient) to make rules for all contingencies, or for enforcement agencies to be everywhere at all times. An oft-quoted reflection on the limitations of regulation and law-enforcement is the statement by former Chief Justice of the US Supreme Court, Earl Warren that:

> *"Society would come to grief without ethics, which is unenforceable in the courts, and cannot be made a part of the law.... Not only does law in civilized society presuppose ethical commitment; it presupposes the existence of a broad area of human conduct controlled only by ethical norms".*

The case for an ethical norm that holds that the protection of human health takes priority in the trade-off between the benefits of increased mobility and the human and economic costs of death and injury can be made in Victoria, as it has overseas, through the Vision Zero approach to road safety.

International experience demonstrates that walking can be made safer. Strategies that have been implemented successfully overseas should be modified, trialled and evaluated in Melbourne so that the benefits of improved road safety are extended to all road user groups. The City of Melbourne Road Safety Plan provides a timely opportunity to invest in action to achieve the multiple cross-sectoral benefits associated with high levels of safe walking in the municipality.

References

Access Economics (2008). *The growing cost of obesity in 2008: three years on*. Canberra, Report for Diabetes Australia.

Appleyard, D, Lintell, M (1980). The environmental quality of city streets: the residents' viewpoint. *Journal of the American Institute of Planners* 38: 84-101.

Australian Bureau of Statistics (ABS) (2012). *Crime Victimisation, Australia, 2010-11* Canberra, ABS.

Australian Bureau of Statistics (ABS) (1995). *Travel to work, school and shops, Victoria, October 1994. Cat No. 9201.2*. Canberra, ABS.

Australian Bureau of Statistics (ABS) (1975). *Journey to work and journey to school, August 1974*. Canberra, ABS.

Australian Institute of Health and Welfare (AIHW) (2012a). *Serious injury due to land transport accidents, Australia 2008-09. Injury research and statistics series no. 67. Cat. no. INJCAT 143.* Canberra: AIHW. (http://www.aihw.gov.au/publication-detail/?id=10737421997).

Australian Institute of Health and Welfare (AIHW) (2012b). *Trends in serious injury due to land transport accidents, Australia 2000-01 to 2008-09. Injury research and statistics series no. 66. Cat. no. INJCAT 142. Canberra:* AIHW. (http://www.aihw.gov.au/publication-detail/?id=10737421993).

Australian Transport Council (2011). *National Road Safety Strategy 2011-2020*. Canberra, Australian Transport Council

Bassett Jr, DR, Pucher, J, Buehler, R, Thompson, DL, Crouter, SE (2008). Walking, cycling, and obesity rates in Europe, North America, and Australia. *Journal of Physical Activity and Health* 5(6).

Bosselmann, P, MacDonald, E (1999). Livable streets revisited. *Journal of the American Planning Association* 65(2).

Bureau of Infrastructure, Transport and Regional Economics (BITRE) (2012). *Road Deaths Australia - 2011 Statistical Summary*. Canberra, Department of Infrastructure and Transport.

Bureau of Infrastructure, Transport and Regional Economics (2009). *Cost of road crashes in Australia 2006*. Canberra, Bureau of Infrastructure Transport and Regional Economics.

Bureau of Infrastructure, Transport and Regional Economics (2007). *Estimating urban traffic and congestion cost trends for Australian cities, Working Paper 71*. Canberra, Department of Transport and Regional Services.

Carver, A, Timperio, A, Crawford, D (2008). Perceptions of Neighbourhood Safety and Physical Activity Among Youth: The CLAN Study. *Journal of Physical Activity and Health* 5(3): 430-44.

Christie, N, Cairns, S, Towner, E, Ward, H (2007). How exposure information can enhance our understanding of child traffic "death leagues". *Injury Prevention* 13(2): 125-129.

Christie, N, Towner, E, Cairns, S, Ward, H (2004). *Children's road traffic safety: an international survey of policy and practice. Road Safety Research Report No. 47*. London, Department for Transport.

Cleland, VJ, Timperio, A, Crawford, D (2008). Are perceptions of the physical and social environment associated with mothers' walking for leisure and for transport? A longitudinal study. *Preventive Medicine* 47(2): 188-193.

Connelly, LB, Supangan, R (2006). The economic costs of road traffic crashes: Australia, states and territories. *Accident Analysis & Prevention* 38(6): 1087-1093.

Cycling Promotion Fund and National Heart Foundation (2011). *Riding a bike for transport: 2011 survey findings*, Cycling Promotion Fund and National Heart Foundation.

Di Loreto, C, Fanelli, C, Lucidi, P, Murdolo, G, De Cicco, A, Parlanti, N, Ranchelli, A, Fatone, C, Taglioni, C, Santeusanio, F, De Feo, P (2008). Make Your Diabetic Patients Walk: Long-term impact of different amounts of physical activity on type 2 diabetes. *Diabetes Care* 28(6): 1295-1302.

Duperrex, O, Bunn, F, Roberts, I (2002). Safety education of pedestrians for injury prevention: a systematic review of randomised controlled trials. *BMJ (Clinical Research Ed.)* 324(7346): 1129-1129.

Elvik, R (2009). The non-linearity of risk and the promotion of environmentally sustainable transport. *Accident Analysis and Prevention* 41(4): 849-55.

Edquist J, Johnston I. (2008). Visual clutter in road environments - what it does, and what to do about it. Australasian Road Safety Research, Policing and Education Conference. November 2008, Adelaide, South Australia

Environment Protection Authority (2007). *Noise surveys 2007*. Melbourne, EPA.

Fildes, B, Langford, J, Dale, A, Scully, J (2005). *Balance between harm reduction and mobility in setting speed limits: a feasibility study*. Sydney, Austroads Inc.

Garrard, J (2008a). *Taking action on obesogenic environments: building a culture of active, connected communities. An options paper prepared for the National Preventative Health Taskforce.* Melbourne.

Garrard, J (2008b). *Safe speed: promoting safe walking and cycling by reducing traffic speed*. Melbourne, National Heart Foundation.

Garrard, J (2009). *Active transport: children and young people. An overview of recent evidence.* Melbourne, Victorian Health Promotion Foundation.

Garrard, J (2010). *Active school travel research project: final report*. Melbourne, Victorian Department of Planning and Community Development.

Giles-Corti, B, Foster, S, Shilton, T, Falconer, R (2010). The co-benefits for health of investing in active transportation. *NSW Public Health Bulletin* 21(5-6): 122-127.

GHD (2012) *City of Melbourne Road Safety Plan Crash analysis paper* 21 September 2012, GHD 180 Lonsdale Street, Melbourne.

Gregg, EW, Gerzoff, RB, Caspersen, CJ, Williamson, DF, Narayan, KMV (2003). Relationship of Walking to Mortality Among US Adults With Diabetes. *Arch Intern Med* 163(12): 1440-1447.

Hart, J (2008). *Driven to excess: impacts of motor vehicle traffic on residential quality of life in Bristol, UK. MSc in Transport Planning at the University of the West of England, Bristol.*

Hastings, G, Stead, M, Webb, J (2004). Fear appeals in social marketing: Strategic and ethical reasons for concern. *Psychology and Marketing* 21(11): 961-986.

Hu, G, Jousilahti, P, Borodulin, K, Barengo, NC, Lakka, TA, Nissinen, A, Tuomilehto, J (2007). Occupational, commuting and leisure-time physical activity in relation to coronary heart disease among middle-aged Finnish men and women. *Atherosclerosis* 194(2): 490-497.

International Transport Forum (2011). *Pedestrian Safety, Urban Space and Health*. Paris, OEDC/ITF.

Jacobsen, PL, Racioppi, F, Rutter, H (2009). Who owns the roads? How motorised traffic discourages walking and cycling. *Injury Prevention* 15(6): 369-73.

Litman, T (2009). *Community cohesion as a transport planning objective*, Victoria Transport Policy Institute.

Litman, TA, Doherty, E (2009). *Transportation cost and benefit analysis: techniques, estimates and implications*. Canada, Victorian Transport Policy Institute.

McKenzie-Mohr, D, Smith, W (1999). *Fostering Sustainable Behavior: An Introduction to Community-Based Social Marketing*. Canada, New Society Publishers.

Oxley, J, Corben, B, Fildes, B, O'Hare, M (2004). *Older vulnerable road users - measures to reduce crash and injury risk'*. Melbourne, Monash University Accident Research Centre.

Pucher, J, Buehler, R, Bassett, DR, Dannenberg, AL (2010). Walking and cycling to health: a comparative analysis of city, state, and international data. *American Journal of Public Health* 100(10): 1986-92.

Pucher, J, Dijkstra, L (2003). Promoting safe walking and cycling to improve public health: lessons from The Netherlands and Germany. *American Journal Of Public Health* 93(9): 1509-1516.

Rivara, FP, Grossman, DC, Cummings, P (1997). Injury prevention. First of two parts. *The New England Journal Of Medicine* 337(8): 543-548.

Wen, LM, Orr, N, Millett, C, Rissel, C (2006). Driving to work and overweight and obesity: findings from the 2003 New South Wales Health Survey, Australia. *International Journal Of Obesity (2005)* 30(5): 782-786.

World Health Organization (WHO) (2008). *Speed management: a road safety manual for decision-makers and practitioners*. Geneva, Global Road Safety Partnership.